

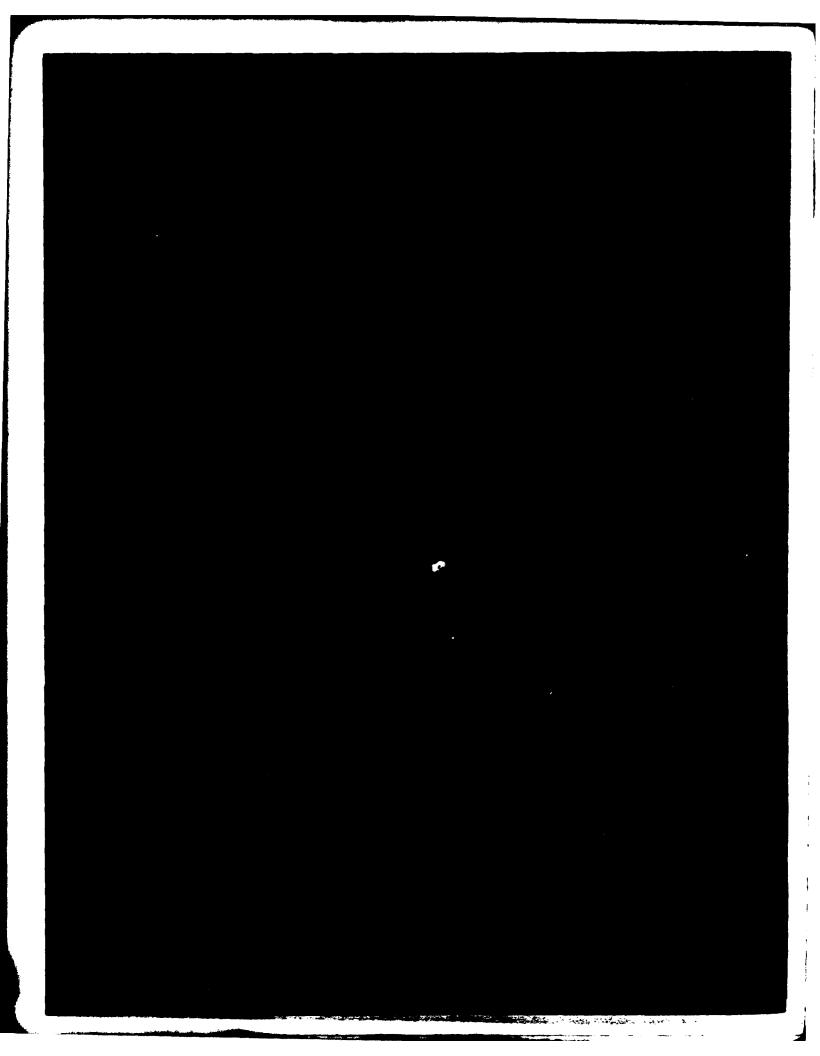
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A computer code that stores and retrieves gun f	iring data was written. A data bank generated
using this code would permit the easy storage and	retrieval of large quantities of firing data and
would be useful in constructing semiempirical gun we	ear models.
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FOREWORD

The work reported herein was conducted as part of the U. S. Army Armament Research and Development Command's Gun Barrel Erosion Program. The task was funded by and coordinated with the Ballistic Research Laboratories, Aberdeen, Maryland.

This report has been reviewed by T. N. Tschirn, Propulsion Branch; K. G. Thorsted, Head, Propulsion Branch; D. H. George, Gun Specialist; and C. A. Cooper, Head, Gun Systems and Munitions Division.

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INTRODUCTION

This report details the development of a gun wear data bank used to store and retrieve firing data. These data can be used to (a) generate or check out proposed gun wear models, (b) compare the gun wear rates of various gun systems, (c) study the effect of firing schedule on gun wear, and (d) aid in predicting wear rates for proposed gun systems.

BACKGROUND

Attempts to predict gun wear rates in order to reduce costly empirical determinations include (1) expressions that relate wear caused by a reduced charge round with wear caused by a full charge round^{1,2}, (2) calculations of bore surface temperature^{3,4}, and (3) semiempirical methods of estimating gun wear rates and gun life^{4,5}.

It has been necessary to employ both theory and empiricism when devising a method of gun wear prediction. Accurate prediction of gun wear by theoretical methods alone has not been successful because gun erosion is not a simple phenomenon. For example, the attempts of Nordheim, et al.³ and Jones and Breithart⁶ to predict gun erosion based on melting of the steel at the bore surface were not successful because the steel does not melt in most guns.³

The purely empirical methods of predicting gun wear have not been successful because there are too many variables affecting the wear of a gun. For example, Riel's empirical formula² to relate gun wear caused by a reduced charge with that caused by a full charge implies that the charge weight is twice as important as the propellant energy level in causing erosion. This (combined with knowledge of interior ballistics and a bit of thermochemistry of propellants) leads to the unlikely conclusion that gun wear may be reduced by substituting higher-flame-tmeperature (or more energetic) propellants for the current propellants. The problem is that an empirical prediction scheme was devised without adequate data.

Semiempirical methods of predicting gun wear include those of Frankle and Kruse⁵ and Smith and O'Brasky.⁴ Frankle and Kruse determined the empirical constants used in their method from published estimates of wear rates for various cannon. These data are easy to use, but do not normally give any information concerning the effect of firing rate on gun wear. In addition to these official gun wear estimates, Smith and O'Brasky used actual firing data in constructing and verifying their method of predicting gun wear. The labor involved in the use of these actual firing data was considerable; this limited the

amount of data examined. Had the firing data been available in an easy-to-use computerized format, more data could have been considered and the accuracy of the gun wear prediction method improved.

Use of the data bank outlined in this report should help in future attempts to derive and check out improved gun wear prediction schemes by making the available data more accessible. It should also serve as a convenient source of data to review the wear history of the particular gun type.

APPROACH

The computer language used to construct and access this data bank is CDC FORTRAN⁷. This data bank was designed to make it feasible to store all medium- and major-caliber (3 in. and above) gun firing data on a computerized medium and to retrieve the data desired with a minimum of effort and computer time. The file type chosen, the FORTRAN mass storage file, has the following advantages for this type of data:

- 1. Records can be conveniently and rapidly stored and retrieved in any order.
- 2. By the use of subindices, groupings of the records are possible.

A FORTRAN mass storage file must reside on disc storage. Since the volume of firing data accumulated by the various proving grounds is immense, the mapping of several logical numbers into one machine word would be a space-saving measure for long-term disc storage.

Star gauge, firing, and comment data are stored. The star gauge data used to determine the wear state of a gun consist of measurements of the inside diameter of the gun bore at various points along its length. The firing data include (1) what was fired (propellant weight and type, projectile type, wear-reducing liner type, etc.), (2) the conditions under which it was fired (temperature, rate of fire, time, etc.), and (3) measured performance data (peak pressure and projectile velocity). These data are used in various wear-rate prediction schemes. Provision is made to add alphanumeric comments to the data bank. These comments might concern unusual wear conditions, special gun construction details, special instrumentation, or similar items.

PROCEDURE

This data bank employs four separate programs to input, sort, and output data. A group of subprograms is available for use by all of the programs. Each of these programs deals with data on local file TAPE4. Figure 1 shows the order in which the various porgrams of this data bank may be executed.

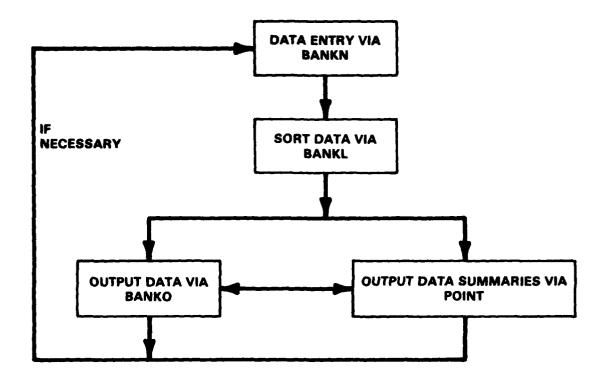


Figure 1. Execution of Gun Wear Data Bank Programs

Program BANKN is used to store data in the data bank. Data are stored on local file TAPE4; this file should be cataloged or extended as a permanent file. A separate permanent file should be used for each gun type (3"/50, 5"/38, 5"/54, etc.), but data from all guns of a given gun type will normally be stored on one file. The format used for the input of data is outlined in Appendix A, and the data structures used to store the data are outlined in Appendix B.

A data record is created for each firing date, stargauge report, or comment entered. An entry is created in the ISEAS array for each of these data records; these entries contain references to the data record. These data records do not have to be created in any particular order, nor do all records for one gun have to be created before records for

another gun can be created. It is, however, necessary that program BANKL be executed for a given gun before data are output for that gun (follow the procedure outlined in Appendix A) to sort the ISEAS array by date. This ISEAS array is then used to help the computer find the desired data records. See Appendix B for the word structure of the ISEAS array.

Appendix C outlines methods of outputting data from the data bank by using programs BANKO and POINT. Program BANKO is used to retrieve and output data. All available data may be output for a given gun number, or the data output may be limited (as outlined in Appendix C). Program POINT is used to compile and output a summary of the data in a form convenient for plotting by a user program.

Appendix D contains the programs used by the data bank; Appendix E contains flow diagrams that will help clarify the programs listed in Appendix D. The programs used by the data bank are listed in Appendix F. Appendix G contains sample output for several computer runs.

RESULTS AND CONCLUSIONS

Computer codes to construct and to retrieve data from a gun wear data bank have been written. Data have been entered, and the codes have been validated. Further data entry awaits additional funding.

REFERENCES

- 1. Ordnance Technical Committee. Item No. 13648, 29 April 1937.
- 2. R. H. Riel, An Empirical Method for Predicting Equivalent Full-Charge (EFC) Factors for Artillery Ammunition, Aberdeen Proving Ground Report DPS/7W-417/2, Aberdeen, MD, July 1961.
- 3. L. W. Nordheim, Harry Soodak, and G. Nordheim, *Thermal Effects of Propellant Gases in Erosion Vents and Guns*, National Defense Research Committee Armor and Ordnance Report A-262, OSRD No. 3447, 24 May 1944.
- 4. C. S. Smith and J. S. O'Brasky, *Preliminary Calculations for the 203mm Marine Corps Gun Howitzer Propulsion Package*, Naval Surface Weapons Center, Dahlgren Laboratory Technical Report NSWC/DL TR-3734 (Appendix B), Dahlgren, VA, August 1977.

- 5. J. M. Frankle and L. R. Kruse, A Method for Estimating the Service Life of a Gun or Howitzer, Ballistics Research Laboratories MR 1852, Aberdeen, MD, June 1967.
- 6. R. N. Jones and S. Breithart, A Thermal Theory for Erosion of Guns by Powder Gases, Ballistics Research Laboratories Report 747, Aberdeen, MD, 1951.
- 7. Control Data Corporation, FORTRAN EXTENDED, Version 4, Reference Manual (Revised Edition), Publication #60305601K, March 1976.

APPENDIX A
DATA INPUT

Data are entered into the data bank when PROGRAM BANKN is executed. A card (or group of cards) is designated by a card code in card columns 1 through 5. This card code is designated ICD; the last digit of this number should be in column 5.

The first time a data file (gun type) is opened, use ICD = 1. Then starting in column 6 of this card, input the following:

<u>Variable</u>	Field	Card Columns	Description
CODE	A10	6-15	Alphanumeric gun description
NG1	15	20*	Number of <i>long</i> stargauge readings (≤ 100)
NG2	15	25*	Number of <i>short</i> stargauge readings (≤12)
NOB1	15	30 *	Number of the origin reading for the long stargauging
NOB2	15	35*	Number of the origin reading for the short stargauging
DIAM	F5.3	36-40	Gun caliber (in.) (use decimal point)
NDAYS	I 5	45*	Estimated number of firing days

^{*}Last digit of the number should be in this column.

Follow this card with a list of *long* stargauge distances from the reference point; use 16F5.2 format. Then list the *short* stargauge distances in 16F5.2 format.

Lines 1 to 5 (Figure A-1) list the above data in the correct form for the 16''/50 Mk 7 gun. Note from line 1 that there are to be 39 stargauge readings in each *long* gauging and six starguage readings in each *short* gauging (the first such reading corresponding to the origin of rifling for both the *short* and *long* gaugings), the gun caliber is 16 in., and the estimated number of firing days per gun is 75. The distance from the breech face to each of the 39 long (λ) gaugings is listed in lines 2-4, and the distance from the breech face to each of the short (normally γ) gaugings is listed in line 5. Note that these cards appear only when the data file is started, not on subsequent runs.

Figure A-1. Sample Data Entry

The first time that data are written for a particular gun number, ICD = 2 is used. Enter the gun number on this card, being sure the last digit is in column 10 (see line 6 of Figure A-1, for a sample).

ICD = 3 is used as the first card (other than ICD = 1 or 2) of an input deck for a given gun number. The gun number is entered in columns 6 through 10 (15 format), and a pressure factor in F5.0 format is entered in columns 11 through 15. Now pressure data are stored in this bank in kpsi; if other units are used to enter the pressure data, a pressure factor is entered to multiply the pressure readings before storage in the bank. For example, 1 tsi(Cu) = 2688 psi; therefore, if the pressure data are in tsi(Cu), a pressure factor of 2.688 is used. [Line 7 of Figure A-1 gives a sample of such a card. This card indicates that data are to be entered for gun number 396 and that the pressure readings are in tsi(Cu).]

Following the ICD = 3 card, data are input for the gun number listed until a card with ICD = 0 (or blank), 2, or 3 is encountered. ICD = 0 will properly terminate program execution; ICD = 2 or 3 has been previously explained. ICD = 11, 12, or 13 is used for the input of one day's stargauging, firing, or comments, respectively. For any of these, the next 15 card columns (columns 6 through 20) contain the month (e.g., 1 for January, 12 for December), date (1 through 31), and year (last two digits only) in 315 format.

For stargauge data (ICD = 11), enter the number of readings available for the point up (λ) readings and point down (γ) readings in columns 31 through 40 in 215 format. The number of λ readings should be 0, NG1, or NG2; the number of γ readings should be 0 or NG2, where NG1 and NG2 are given under ICD = 1 above. Plug gauge readings (if available) are given in A5 format beginning in columns 21 or 26 (or both).

Follow this card with a list of measured gun diameters for the λ stargaugings in 16F5.3 format. The distance from the reference point to the point where the diameter reading is taken was given under ICD = 1 for either *long* or *short* stargauging. (Omit this if there are zero λ gaugings.)

Similarly, the γ stargauge diameters are listed (if any) for the distances listed for the **short** gaugings. These readings are listed on a card separate from the λ readings. Lines 8-12 of Figure A-1 give the input for a stargauging performed on June 16, 1969. Thirty-nine λ readings and six γ readings are listed; the first γ reading is 16.427 in., and the first γ reading is 16.428 in.

For firing data (ICD = 12), enter, beginning in column 31 in 515 format, the number of indexes of powder used, the number of projectile types used, the ambient temperature (°F), the number of rounds previously fired from the gun, and the previous equivalent service rounds (ESRs) shot from the gun. If desired, a wear measurement may be entered in columns 21 through 25 or columns 26 through 30 (or both).

The second card of this sequence lists the propellant index (10 columns of alphanumeric data per index) and the projectile types (10 columns of alphanumeric data per projectile type). If more than eight such fields are needed, use an extra card. Lines 13-14 of Figure A-1 show that on June 12, 1969 a firing took place using SPD 10293 propellant and inert 1900-lb projectiles, the ambient temperature was 76°F, and 486 rounds had previously been fired through this tube.

The next card used will be the firing setup card (ICD = 15). List the case, plug, wad, wear-reducing agent, primer, number of the propellant, number of the projectile, and propellant conditioning temperature in 5A10, 2I2, I3 format beginning in column 6. Use an ICD = 15 card whenever the data on the previous ICD = 15 card are not valid for the next round. The ICD = 15 card image of line 15 of Figure A-1 indicates that the Mk 15 Mod 3 primer was used with the first propellant (SPD 10293) and first projectile type (INERT 1900). The propellant was conditioned at 90°F. As this is a bag gun, no case, plug, or wad are noted. No wear-reducing agent was used with these rounds.

To list round-by-round data (for one round), use an ICD = 16 card. List, beginning in column 6, the time (24-hr clock), charge weight (lb), pressure (kpsi/pressure factor), and velocity (ft/s) in 15, F5.2, F5.1, F5.0 format. Lines 16-19 of Figure A-1 give examples of this type of card. Note from line 16 that, at 9:57 a.m., a 670-lb charge yielded a chamber pressure of 11.5 tsi(Cu) and a projectile velocity of 2529 ft/s.

Burst data are given by an ICD = 17 card or card sequence. On the first card (the one with "17" in columns 4 and 5), place the time (24-hr clock) of the first shot of the burst, the charge weight per shot (lb), the rate of fire (rd/min), the number of rounds in the burst, and the pressure of the last round fired (kpsi/pressure factor) in 15, F10.2, F10.0, I10, F10.1 format. Place a 1 in column 51 if velocity data are available for the burst.

If a 1 is in column 51, follow this card with a list of velocities (ft/s) of rounds in the burst. Use 1615 format, and use as many cards as necessary to list all the velocities. Leave a blank if velocity data are missing for a round.

When data for all rounds are listed for the day's firing, terminate by using a card with $ICD \le 13$.

An ICD = 13 card is used to initiate a comment. The number of comment cards following this card is listed in 15 format beginning in column 21. Each comment card used is assumed to contain 80 columns of alphanumeric data. Lines 20-21 of Figure A-1 indicate the proper format for entering a comment. The comment pertains to the date, which is June 14, 1969; and, the one-line comment is "THIS IS A SILLY COMMENT."

Program BANKL should be executed after all data for a given gun are entered or before any attempt is made to recall any data for this gun (with POINT or BANKO). BANKL expects the gun number to be entered in 15 format on the first card; subsequent cards may be used with the same format to reference other guns. Use a blank card as the last card of the input file for BANKL. BANKL sorts the references to the records in order of date (BANKO and POINT expect the references in order of date). BANKL may be executed more than once for a given gun. This will be necessary if the data for a gun are to be accessed by BANKL or POINT before all data are entered.

APPENDIX B

DATA STORAGE

GENERAL SETUP

The data are stored in a FORTRAN mass storage file with one level of subindexes. A numeric main index and numeric subindexes are used.* A separate file is used for each type of gun for which data are to be stored. The amount of data written or read by one statement is called a record.

The first record of the file contains general data concerning the gun – an alphanumeric identifier, gun diameter in inches, the number of stargauge points to be stored, and a place to keep track of what cases, plugs, wads, primers, and wear-reducing agents have been used in the gun (30 words are allowed for each of the cases, plugs, etc.).

The second record is a listing of the distances from the reference point to where stargauge readings are taken. Distances (in inches) are listed for a *long* stargauging (usually 20-35 points) and a *short* gauging (usually six points). The data are recorded in A format, five characters per distance (or two distances/word); the program will decode (or internally read) the data in F5.2 format.

GUN REFERENCES

The third record contains an array, ISEAM (2,200), which contains data to aid in locating each gun for which data are stored on the file. Table B-1 lists what is stored in this array and where. (The *first word* refers to the first word for the gun in question, and the *second word* refers to the second word for that gun.)

All charge weight data are stored as 6000 CW/d³, where CW is the charge weight in pounds and d is the caliber of the gun in inches. Units of other variables are given in the tables or writeup telling how the variables are stored.

Table B-1. Data in ISEAM Array

Word	Bits	Description
1	1-15	Total number of rounds fired in gun
1	16-30	Maximum charge weight ever used in gun
1	31-45	Maximum velocity of any round shot from gun (ft/s)
1	46-60	Gun number
2	1-12	Number of subrecords (i.e., days of firing, stargauging, etc.); this is a <i>flexible limit</i> used by the program and will be changed by the program as necessary
2	13-24	Maximum pressure (psi/100) ever achieved in gun

^{*}A description of how to use a FORTRAN mass storage file is given in: Control Data Corporation, FORTRAN EXTENDED, Version 4, Reference Manual (Revised Edition), Publication #60305601K, March 1976.

Table B-1. Data in ISEAM Array (Continued)

Word	Bits	Description
2	25-36	Maximum stargauge reading
2	37-48	Maximum burst length (rd)
2	49-60	Maximum burst rate-of-fire (rd/min)

Now INDEX, the main file index, is dimensioned at 201. The last space (201) is unusable, and three spaces have been used (1, 2, and 3) to reference the first three records. The fourth element of INDEX contains references to the subindex for the same gun that is referenced by the 4th word pair of ISEAM. This correspondence is maintained for the fifth, sixth, etc., words up to a maximum of 200; thus, data for 197 guns may be stored on this file.

SUBINDEXES

At any time, the subindex being used is INDEXS dimensioned at 1001; thus, 1000 records per gun are permitted. They are now considered to be numbered 1, 2, 3, ..., n, which results in n such records ($n \le 1000$). The first such record is ISEAS, dimensioned at 2 and 1000. ISEAS bears the same relationship to INDEXS as ISEAM bears to INDEX. Thus, up to 999 data records can be referenced for each gun.

The first word of each ISEAS pair (except the first pair) contains the data listed in Table B-2.

Table B-2. Data Always Found in 1st Word of ISEAS Pair

Bits	Description
52-60	Year (1900 would be θ , 1901 would be I , etc.)
43-50	Month and date; if this field is called IDATES, the month is (IDATES - 1)/31 and the date is IDATES - 31 * month
1-3	ICOD (values have meaning given below): O Plug gauge date only 1 Stargauge record 2 Not used 3 Firing data; no rapid fire 4 Firing data; includes rapid fire 5-6 Not used
	7 Comment (an alphanumeric comment)

If ICOD is 1, the first word of the ISEAS pair contains the origin readings (in./1000) for the λ and γ stargauge readings in bits 13 through 27 and 27 through 42, respectively. The second word of the ISEAS pair will contain the number of words in the referenced record in bits 1 to 11 and the number of the record referenced in bits 12 to 21.

If ICOD is 3 or 4, the additional information listed in Table B-3 is contained in the ISEAS pair.

Table B-3. Information Contained in ISEAS Pair for ICOD = 3 or 4

Word	Bits	Description
1	31-42	Number of words in referenced record
1	16-30	Maximum rate of fire (0 if ICOD = 3) (rd/min)
1	4-15	Number of rounds fired on date referenced
2	46-60	Maximum charge weight for day
2	31-45	Maximum velocity for day (ft/s)
2	22-30	Maximum pressure for day (psi/100)
2	12-21	Number of the record referenced
2	1-11	Maximum burst length (rd)

If ICOD = 7, the second word of the ISEAS pair will contain the number of words in the referenced record in bits 1 to 11 and the number of the referenced record in bits 12-21.

STARGAUGE RECORDS (ICOD = 1)

The first word of a stargauge record contains the number of λ readings in the right side of the word and the number of γ readings ending in bit 31. The second word contains two plug readings; and, the format used is 2A5. (In the 5"/54 gun, the first of these plug gauge readings is to be the Mk 2 Bore Erosion Gauge Reading, and the second is to be the Projectile Seating Distance Gauge Reading.)

The λ stargauge readings are listed starting in the third word. The readings listed are in in./1000; and, the numbers are regarded as 15-bit integers. Four such readings are stored per word. The γ stargauge readings follow the λ readings, but they start in a new word. Note that the distances at which the stargauge readings were taken are stored in the second record of the file and are not repeated.

GUN FIRING DATA RECORDS

The first word of this record contains two five-character alphanumeric fields – the first is the previous number of rounds fired, and the second is the ESR on the gun to date. The second word contains two plug gauge readings in 2A5 format. The third word contains the ambient temperature (°F), the number of propellant types (m), and the number of projectile types (n) used in that day's firings (encoded using I3, 2I2 format).

The next m words each contain a 10-character alphanumeric description of the propellant type, which is followed by n words, each containing an alphanumeric description of one projectile type.

The balance of the record contains setup words, round words, and burst word sequences as outlined in Tables B-4, B-5, and B-6, respectively. A setup word should be the first word of this sequence (a new setup word is required whenever the data listed in this word changes). The setup word, for the most part, contains references to other data. (Note that the first record of the file contains a listing of cases, plugs, wads, primers, and wear-reducing agent: and that m propellants and n projectiles used this day have been listed). Table B-4 gives the item referenced and the bits containing the reference to the item. The reference number tells the user to pick item 1, 2, ..., or n from the list. This word also contains the quantity (powder conditioning temperature +100) in bits 10 through 18; bits 1 through 9 are zero. The zero in bit 1 identifies this word as a setup word.

Table B-4. References Contained in Setup Word

Bits	Referenced	
55-60	Case	
49-54	Plug	
43-48	Wad	
37-42	Primer	
31-36	Wear-reducing agent	
25-30	Propellant	
19-24	Projectile	

Table B-5. Data in Round Word

Bits	Data
46-60	Time of day (24-hr clock)
31-45	Charge weight
16-30	Velocity (ft/s)
4-15	Pressure (psi/100)
1-3	The number 1

Table B-6. Data in First Two Words of Burst Sequence

Word	Bits	Data
1	46-60	Time of day (24-hr clock)
1	31-45	Charge weight
1	16-30	Number of rounds in the burst
1	4-15	Maximum pressure for the last round (psi/100)
1	1-3	The number 2
2	46-60	Rate of fire (rd/min)
2	2	One if velocities are available for this burst

If velocity data are available, the data are stored 15 bits per velocity (four velocities per word) starting in the next word. Velocities are in ft/s.

COMMENT DATA

The first word of a comment record contains the number 4 in the right-hand side, and the number of words is the comment ending in bit 31. (The number of words in the comment is eight times the number of comment cards.) This is followed by the comment.

APPENDIX C

DATA RETRIEVAL

BANKO is usually used to retrieve data from the data bank; however, POINT may be used for obtaining certain data to plot or may be used when very limited data are desired.

BANKO expects input in a form similar to that expected by BANKN – a card code ICD in 15 format followed by a 75-character alphanumeric string DATA to be decoded. (DATA starts in card column 6.) ICD = 0 (or blank) properly terminates program execution. If ICD = 1, enter the number of gun numbers to be considered, and the gun numbers in 1515 format. If ICD is greater than one but less than 10, enter two numbers (AMINV and AMAXV) in 2F5.0 format. A given gun number will be chosen if the maximum value for the parameter called for by the choice of ICD lies between AMINV and AMAXV (Table C-1).

Table C-1. ICD and Corresponding Parameters (2 \leq ICD \leq 10)

ICD	Parameter
2	Velocity (ft/s)
3	Charge weight (lb)
4	Number of rounds shot to date
5	Rate of fire (rd/min)
6	Number of rounds per burst
7	Stargauge readings (in./1000)
8	Peak pressure (psi/1000)
9,10	Not used

If ICD is greater than 10, it is desired to choose records for a gun number (or numbers) that have been previously selected. The data in the selected records are then printed out.

If ICD = 11, enter the number of records for each gun to be printed and the record numbers in 2513 format.

If ICD = 12, the records are selected by date and record type. The DATA part of this card is defined as having 1515 fields. The first three fields are the starting date (month, day, and year; the year is the calendar year less 1900); the second three fields are the ending date; and the seventh field is the number of record type codes, which are listed in the remaining fields (Table C-2). Data records are selected only if it is in the date range selected and is of a type listed in the list of record codes.

Table C-2. Record Type Codes

Code	Record Description
0	Plug gauge data only
1	Stargauge record
3	Firing data; no rapid fire
4	Firing data; rapid fire
7	Comment record

If ICD = 13 or greater, enter two numbers (AMAXV and AMINV) in 2F5.0 format. A record will be selected if the desired parameter (as listed in Table C-3) is greater than AMINV but less than AMAXV. (ICD = 17 calls for stargauge data, and other values of ICD call for firing data.)

Table C-3. ICD and Corresponding Parameters

ICD	Parameter
13	Maximum charge weight (lb)
14	Number of rounds fired that day
15	Maximum rate of fire (rd/min)
16	Maximum burst length (rd)
17	Origin reading (in.)
18	Maximum peak pressure for the day (psi/100)
19	Maximum velocity for day (ft/s)

Program POINT expects unformatted data as input. The first card (or line, if entered from a terminal) should have the gun number and a round count code. (If the gun number is 396 and the code is 1, the line would read 396, 1). Round count codes are given in Table C-4.

Table C-4. Round Count Codes

Code	Action
1	Count number of rounds fired from data in ISEAS array
2	Obtain number of rounds fired previously from data in record
3	Obtain ESR (equivalent service record) on gun from data in record
4	Count ESR from data in ISEAS array

These ESR (or, for Army users, equivalent full charge) factors are calculated based on the wear estimation methods of Smith and O'Brasky*. If this is not satisfactory, the user may substitute his own FUNCTION PESR to compute ESR factors by his specifications.

The second card or line entered should contain the stargauge selection code (1 for λ readings, 2 for γ readings), the number of stargauge distances of interest, and the distance from the reference point to the points of interest. (Make sure stargauge readings are available for the distances listed!)

If data for additional guns are desired, repeat cards 1 and 2 for each gun. If a gun number of 0 is entered, the program stops.

C. S. Smith and J. S. O'Brasky, *Preliminary Calculations for the 203mm Marine Corps Gun Howitzer Propulsion Package*, Naval Surface Weapons Center, Dahlgren Laboratory Technical Report NSWC/DL TR-3734 (Appendix B), Dahlgren, VA, August 1977.

APPENDIX D
PROGRAM LISTINGS

PROGRAM BANKN

```
PROGRAM BANKE (INPUT, OUTPUT, TAPE4, TAPE1=INPUT, TAPE2=OUTPUT)
     IMPLICIT LOGICAL (E)
     COMMON INDEX (201), INDEXS(1001), ISEAM(2, 200), ISEA9(2, 1000),
          DATA(82,SG1(100),SG2(12),SG(56)
     COMMON/ONE/ CODE, NGA, NGB, NCB1, NOB2, DIAM, NG, NRECM, SAVE1, SAVE2,
           CASE(38 ), PLUG(30 ), WAD(30 ), PRIMER(30 ), AGENT(38 )
     INTEGER DATE
     DIMENSION REC1(160).
                                 ITORE (1000), DATE (3), SG (56), PROL(30),
          PROJ(30), SR1(100), SR2(12)
     EQUIVALENCE PREC1.CODE)
     DIMENSION IDATE(12)
     DATA IDATE /3HJAN, 3HFEB, 5HHARCH, 5HAPRIL, 3HHAY, 4HJUNE, 4HJULY,
          3HAUG, 4HSEPT, 3HOCT, 3HNOV, 3HDEC/
     IFUN (I,J,K,L,M)=OR (SHIFT(I,45),SHIFT(J,30),SHIFT(K,15),SHIFT
    1
          (L,3),M
     DATA BLANK/16H
                                /, EOPEN/.FALSE./, NREC#/201/
     NCASE=NPLUG=NWAD=NPRIMER=NAGENT=1
     CASE(1)=PLUG(1)=WAD(1)=PRIPER(1) =AGENT(1)=BLANK
  10 READ (1,1000) ICD, DATA
1000 FORMAT (15,7410,45)
126 ICC1=ICD+1
     GO TO (9,1,2,3),
   9 CALL WRITHSE 4, REC1, 160,1,-1)
     CALL WRITHS #4, ISEAM, 400, 3,-1)
     CALL CLOSMS ( 4)
     IF (DATA(1) .EQ. BLANK) STOP 1
     GO TO 10
1 DECODE (75,1802,DATA) CODE,NGA,NGB,NOB1,NOB2,DIAM,NDAYS 1802 FORMAT (A10,415,F5.3,I5)
     CALL OPENMS # 4, INDEX, 201, 0)
     NG1H= (NGA+13/2
     NG1H1=NG1H+I
     READ (1,1004) (SG(I),I=1,NG1H)
     NG=(NGA+1)/2+(NGB+1)/2
     READ(1,1004T (SG(I), I=NG1H1, NG)
1004 FORMAT (8A18)
     CALL WRITHS & 4,56,NG, 2)
     CALL WRITHS # 4, REC1, 160,1)
     CALL WRITHS # 4, ISEAM, 400, 3)
     DECODE (560,1006,SG) (SG1(I),I=1,NG1)
DECODE (200,1006,SG(NG1H1)) (SG2(I),I=1,NG2)
1006 FORMAT (112F5.2)
     WRITE (2,1886) CODE, DIAM
1008 FORMAT ( 8+1GUN IS A18, 3H OF.F18.3.17H INCHES DIAMETER.)
     WRITE ( 2,1878) SG1(NOB1), SG2(NOB2)
1010 FORMAT (20H8ORIGIN OF RIFLING =F7.2,3H ORF7.2, 8H INCHES.)
     WRITE (2,1012) (SG1(I),I=1,NG1)
1012 FORMAT (1H058x19HLONG GAUGING POINTS/(1x12F18.2))
     WRITE (2,1014) (SG2(I), I=1, NG2)
1814 FORMAT (1H058X2DHSHORT GAUGING POINTS/1X12F18.2)
     EOPEN=.TRUE:
     60 TO 10
   2 IF (EOPEN) 60 TC 100
     CALL ONLY REFORE THE FIRST TIME DATA IS WRITTEN FOR A GUN.
     CALL OPENRE $ 4)
     EOPEN=.TRUEJ
 188 DECODE (75,1800, DATA) IGUN
     CALL GUNCAL & 4, IGUN, ENEXT, JJ)
               (ENEXT) GO TO 105
     1F
     PRINT 1816
1816 FORMAT (57H1ATTEMPTED TO OPEN FOR 1ST TIME GUN FOR WHICH DATA EXIS
    1751
     STOP 2
 185 DECODE (75, 1819, DATA) NODAYS
```

```
1019 FORMAT (5X 15)
       NRECS= 2-NODAYS+15
       IF (NODAYS . BQ. 0 . OR. NRECS . GE. 500) NRECS=500
       00 116 I=1, WRECS
  110 ISEAS(1,1)=ESEAS(2,1)=INDEXS(1)=0
       ISEAM(1, JJ) #SHIFT (IGUN, 45)
       ISEAM (2,JJ1=NRECS
       CALL STINOX ( 4, INDEXS, NRECS)
CALL WRITHS ( 4, ISEAS, 2*WRECS, 1)
       CALL STINDX & 4, INDEX ,NRECM)
CALL MRITMS & 4, INDEXS, NRECS+1, JJ, 0, 1)
       GO TO 18
     3 EJJ=.FALSE.
       IF (EOPEN) 60 TO 115
       CALL OPENRE $ 4)
       EOPEN=.TRUEJ
 115 DECODE (75,1013,DATA) IGUN,PRESF
1013 FORMAT (15,F5.0)
       IF (PRESF .EQ. 0) PRESF=1.
       CALL GUNCAL + 4, IGUN, ENEXT, JJ)
       IF (ENEXT) STOP 3
       NRECS=AND(77778,ISEAM(2,JJ))
       CALL READMS # 4, INDEXS, NRECS, JJ)
CALL STINDX # 4, INDEXS, NRECS)
       CALL READMS (4, ISEAS, Z*NRECS, 1)
  120 READ (1,1000) ICD, DATA
  121 ICDH=ICD-10
       IF (ICOH) 125, 125, 130
  125 CALL WRITHS + 4, ISEAS, 2*NRECS, 1,-1)
       CALL STINDX & 4, INDEX ,NRECH)
CALL WRITHS & 4, INDEXS, NRECS, JJ, -1, 1)
       ADD TO MAIN SEARCH ARRAY
       IF (.NOT. E3J) GO TO 126
       CALL MARRAY (ISEAM(1,JJ), ISEAM(2,JJ), MYEL, MCH, NRDTOT, MRATE, NRDB,
                           MD8, MP, NRECS)
       GO TO 126
  130 CONTINUE
C -- WRITE DATA TO FILES
       EJJ=.TRUE.
       GO TO (11,12,13) ICOH
 11 DECODE (75,1818,DATA) DATE,PLUG1,PLUG2,NG1,NG2,ISTO1,ISTO2
1818 FORMAT (315,2A5,515)
        JK=JREC(ISEAS, DATE, NRECS, 1)
       ID=DATE(1)
       WRITE (2,1017) IDATE(ID), DATE(2), DATE(?)
 1017 FORMAT (1H0A6,13,4H, 19,12)
PRINT 1020,NG1,NG2,PLUG1,PLUG2
 1020 FORMAT ( 14815,7H UP ANDIS,26H DOWN GAUGINGS WERE TAKEN./17H PLUG
      1READING 1 =A6,17H PLUG READING 2 *A6)
       IF (NG1 .EQ. 8) NG1=8
IF (NG2 .EQ. 8) NG2=8
       ITCRE(1)=NG1 .OR. SHIFT(NG2,30)
 ENCODE (18,1022, ITORE(2)) PLUG1, PLUG2
1822 FORMAT (2A5)
       1001=1002=0
       ICOD=0
        ICOUNT=2
       IF (NG1 .EQ; 0) GO TO 135
       CALL GAUGIN(NG1,SR1,180,ITORE,ICOUNT,ISTD1)
       ICOD= t
  135 IF (NG2 .EQ. 0.) GO TO 140 CALL GAUGIN (NG2, SR2, 12, IT ORE, ICOUNT, ISTD2)
        1002=SR2(N002)
  146 IO61=SR1 (NOB1)
        JK1=JK
        IF (ISEAS(1,4K) .NE. 0) JK1=AND(SMIFT(ISEAS(2,JK).-11),17779)
```

```
CALL WRITHS (4, ITORE, ICOUNT, JK1, -1)
     ISEAS(1,JK)=OR (SHIFT(OATE(3),51),SHIFT(31+OATE(1)+OATE(2),42),
          SHIFT (1001,27), SHIFT (1002, 12), 1000)
    1
     すぐつD±6
     ISEAS(2, JK) 4 ICOUNT .OR. SHIFT (JK1, 11)
     MDS=MAX8(MDE,IDS1,IDS2)
     60 TO 128
  12 DECODE (75,1818, DATA) DATE, PLUG1, PLUG2, NPROL, NPROJ, IAMB, NRPR, NESR
     ENCODE (18, 1823, ITORE(1)) NRPR, NESR
1823 FORMAT (215)
MRITE (2,1825) NRPR, NESR
1825 FORMAT (16,174 PREVIOUS ROUNDS, 17,144 PREVIOUS ESR.)
     JK=JREC(ISEAS, DATE, NRECS, 4)
     IO=DATE(1)
     WRITE (2,1017) IDATE(IC), DATE(2), DATE(3)
     ENCODE (10,1822,ITORE(2)) PLUG1,PLUG2
     ICOUNT=2
     READ ( 1,1824) (PROL(I), I=1, NPROL), (PROJ(I), I=1, NPROJ)
1024 FORMAT (8A18)
     KOU=18*(1+NPROL+NPROJ)
     IF (IAMB .EQ. & .ANO. AND(18, IAMP) .EQ. 1) IAMB=999.
     ENCODE (KOU; 1026, ITORE(3)) IAMB, NPROL, NPROJ, (PROL(I), I=1, NPROL),
          (PROJ(IF, I=1, NPROJ)
1026 FORMAT (13,212,3x,60A10)
     NRCTOT=MCW=MVEL=MP=MRATE=NRD8=IC CD=0
     ICOUNT=ICOUNT + KOU/19
     CIAM3=6000./EDIAM=DIAM=DIAM)
 165 READ ( 1,1000) ICD, DATA
     ICOH=ICO-14
     IF (ICOH) 178,170,145
145 GO TO (150, 255, 160)
-- ROUND SETUP
                               .ICDH
 158 DECODE (75,1828,DATA) CASES,PLUGS, MADS, AGENTS, PRIMERS, IPROL, IPROJ,
          IRDTEMP
1828 FORMAT (5A18,212,13)
     ICASE=LOOK (CASES, NCASE, CASE)
     IPLUG=LOOK EPLUGS, NPLUG, PLUG)
IMAD= LOOK EWADS, NWAD, WAD)
     IAGENT=LOOK FAGENTS, NAGENT, AGENT)
     IPRIMER=LOOK (PRIMERS, NPRIMER, PRIMER)
     WRITE (2,1829) CASES, PLUGS, WADS, AGENTS, PRIMERS, PROL(IPROL),
           IRDTEMP, PROJ (IPROJ)
1829 FORMAT (6H CASE=A10,5X,5HPLUG=A10,5X4HWAD=A10,7HAGENT= A18,5X
        THPRIMER= A10/5XA10,18H PROL AT 14,11H DEG. PROJ= A18)
     ICOUNT = I COUNT+1
     ITORE(ICOUNT) = OR (SHIFT(ICASE, 54), SHIFT(IPLUG, 48), SHIFT(IMAD, 42),
           SHIFT (TAGENT, 36), SHIFT (IPRIMER, 38), SHIFT (IPROL, 24),
           SHIFT (IPROJ, 18), SHIFT (IROTEMP+100,9))
     GO TO 165
     SLOW FIRE
155 DECODE (75,1838,DATA) ITIME,CW,P,VEL
1030 FORMAT (15,F5.2,F5.1,F5.0)
     P=P*PRESF
     NRDTOT=NRDTGT+1
     ICH=CH+DIAMS +.5
     HCH=MAX8 (ICW, MCH)
     IVEL=VEL
     HVEL=HAX8(IVEL.MVEL)
     IP=P*10 +.5
     HP=MAXO(IP,MP)
     ICOUNT=ICOUNT + 1
     IF (IVEL .EQ. 8) IVEL=0
     IF (ITIME .EQ. 0) ITIME=0
WRITE (2,1031) ITIME, CH, VEL, P
1031 FORMAT (3H AT16,11H HOURS CH= F10.3,6H VEL = F10.0,7H PRES =F10.1)
     ITORE (ICOUNTY=IFUN(ITIPE,ICH, IVEL,'IP, 1)
```

```
ICOD=MAX8(ICOD.3)
     GO TO 165
     EURST
 160 DECODE (75, 1832, DATA) ITIME, CH, RATE, NRDS, PRESL, ICV, ICP
     PRESL=PRESL *PRESF
1032 FORMAT (15,F10.2,F10.0,I10,F10.1,211)
     IF (ICV .NEJ 1) ICV=0
     IF (ICP .NE: 1) ICP=0
     WRITE (2, 1033) ITIME, NROS, RATE, CW, PRESL
1033 FORMAT (3H ATI6,11H A BURST OFI5,18H ROUNDS ATF18.2,13H RD/NIN. CH
    1 = F10.3,12H LAST PRES = F18.1)
     ICH=CW+DIAM3 +.5
     IRATE=25.*RATE +.5
     IPRESL=PRESL*10. +.5
     MCW=MAX8 (MCH, ICh)
     MP=MAXO(IPRESL, MP)
     NROTOT=NROTOT+NROS
     NROB=MAXO(NROB,NRDS)
     MRATE=MAXO(MRATE, IRATE)
     ICCD=4
     I=2
     ITORE (ICOUNT+1) = IFUN (ITIME, ICM, NRDS, IPRESL, 2)
     ICCUNT=ICOUNT+2
     ITORE(ICOUNT)=OR (SHIFT(IRATE,45), SHIFT(ICV, 1), ICP)
     IF (ICP .EQ.J 1) CALL BURST (ICOUNT, NRDS, ITORE) IF (ICV .EQ: 1) CALL BURST (ICOUNT, NRDS, ITORE)
     GO TO 165
 170 JK1=JK
     IF (ISEAS(1,JK) .NE. 0) JK1=AND(SHIFT(ISEAS(2,JK),-11),17778)
     CALL WRITHS (4, ITORE, I COUNT, JK1, -1)
     ISEAS (1, JKT=OR (SHIFT (DATE(3), 51), SHIFT (31*DATE(1)+DATE(2), 42),
          SHIFT (ICOUNT, 30), SHIFT (MRATE, 15), SHIFT (NROTOT, 3), ICOD)
     ISEAS (2,JKF*OR (SHIFT (MCH,45), SHIFT (MVEL, 30), SHIFT (MP/10,21),
          NROE, SHIFT (JK1,11))
     EITS 13 TO 21 ARE UNUSED.
     GO TO 121
  13 ICCUNT=1
DECODE (20,1836,DATA) DATE,NCDS
1836 FORMAT (415)
     JK=JREC(ISEAS, DATE, NRECS, 7)
     ID=DATE(1)
     WRITE (2,1017) IDATE(IC), DATE(Z), DATE(3)
     ITORE(ICOUNT) = OR (4.SHIFT(8*NCDS,30))
     ICOUNT = I COUNT+1
     DO 180 I=1,NCDS
     READ (1,1038) DATA
1938 FORMAT (8A1GH
     ENCODE (80,1638, ITORE (ICOUNT )) DATA
 180 ICCUNT=ICOUNT+8
     ICCUNT=ICOUNT-1
     WRITHS ITORE TO DISK
     WRITE (2,1048) (ITORE(I), I=2, ICOUNT)
1040 FORMAT (1X8#10)
     JK1=JK
     IF (ISEAS(1, JK) .NE. D) JK1=AND(SHIFT(ISEAS(2, JK),-11),1777B)
     CALL WRITHS $4, ITORE, I COUNT, JK1, -1)
     ISEAS (1,JKF=OR (SHIFT (DATE(3),51),SHIFT (31+DATE(1)+DATE(2),42),7)
     ISEAS (2,JK1=ICOUNT .OR. SHIFT(JK1,11)
     GO TO 128
     END
     SURROUTINE MARRAY (11.12.MVEL.ICHM.NRDS.IRATE.NRDD.IDG.IPRES.
          NSUBRED)
     IBYTE (I,J,KM=SHIFT(I,1-J) .AND. COMPL(MASK(59+J-K))
     IFUN1(I,J,K,E) = OR(SHIFT(I,45),SHIFT(J,38),SHIFT(K,15),L)
     IFUNZ(I, J, K,t, M) = OR (SMIFT(I, 48), SMIFT(J, 36), SMIFT(K, 24),
           SHIFT (L, 12), M)
```

```
I1=IFUN1 (IRYTE (I1,46,68), MAXB (IBYTE (I1,31,45), MVEL),
           MAX@(IBYTE(I1,16,38), ICWM), IBYTE(I1,1,15) +NROS)
      12=IFUN2(MAX#(18YTE(12,49,68),1RATE),MAX#(NROD,18YTE(12,37,48)),
           MAX8(104, 184TE(12, 25, 36)), MAX0(1PRES, 184TE(12, 13, 24)),
           MAX@(IBYTE(IZ,1,12),NSUBREC))
     2
      RETURN
      END
      SUBROUTINE BURST (ICOUNT, NROS, IT CRE)
      DIPENSION ITORE (1000) , L (603)
    READ ( 1,1) (1), I=1, NRDS)
1 FORMAT (1615)
      L(NRDS+1)=L(NRDS+2)=L(NRDS+3)=0
      00 3 IL=1, NRBS
    3 IF(L(IL) .EQ: 0) L(IL)=0
      M= (NRDS+3) /4
      DO 2 I=1,M
      ICOUNT=ICOUNT+1
    2 ITORE(ICCUNT)=OR (SHIFT(L(4*I ),45),SHIFT(L(4*I-1),38),
           SHIFT(L44*I-2),15),L(4*I-3))
      RETURN
      END
      FUNCTION LOOK (CS.N.C)
      DIMENSION CE38)
      DO 1 I=1,N
      IF (C(I).EQ:eS) GO TO 2
    1 CONTINUE
      N=N+1
      C(N)=CS
      LOOK=N
      RETURN
    2 LOOK=1
      RETURN
      END
      SUBROUTINE GAUGIN (NG, SG, NNG, ITORE, J, ISTO)
      INTEGER SG
      DIPENSION SEANNG), ITORE(1000)
      DIPENSION #42)
      CATA A /4HUP
      IA=1
      IF (NNG .EQ. 12) IA=2
      NGA= (NG+ 3) /4
      NGE=4+NGA
      SG (NGB) = SG (NGB-1) = SG (NGB-2) = 0.
      IF (ISTD .NR. 0) 60 TO 20
      READ (1,1) (SG(1), I=1, NG)
    1 FORMAT (1615)
    DO 5 I=1,NG
5 IF (SG(I) .EQ. 0) SG(I)=0
      GO TO 7
      CALL PBYP (NG,SG,ISTD,IA)
    7 DO 2 I=1.NGA
      1+1=1
    z : TORE(J) = OR(SG(4+1), SHIFT(SG(4+1-1), 15), SHIFT(SG(4+1-2), 30),
           SHIFT (36 (4*1-3),45))
      WRITE (2,18) NG, A(IA), (SG(I), I=1, NG)
   18 FORMAT (1X15,1XA4,17H READINGS FCLLON, /(12118))
      RETURN
      END
      SUPROUTINE PRYP(NG,SG,IA,IB)
      READ GAUGE BATA FOR DISTANCES OTHER THAN STANDARD. CONVERT TO
C --
            STANDARD READINGS AND STORE.
      DIMENSION SEENG), SDR(100), SGR(100)
      COPMON CRAP (3618), SG1(112), SGCODE (56)
      COPMON/ONE/TRASH(3), NOB(2), TRASHN(155)
      INTEGER SG
      READ (1,100F IOPO, NACT, PT, PACT, (SDR(I), 9GR(I), I=1, NACT)
```

```
100 FORMAT (215,2F5.2/(8(F5.2,F5.3)))
  DO 181 I=1,NG
181 SG(I)=8
      60 TO (1,2) IORD
    1 CORR=PACT-PF
      DO 3 I=1,NACT
    3 SDR(I) = SDR(E)+CORR
      60 TO 5
    2 CORR=PACT+PT
      DO 4 I=1,NG
    4 SDR(I)=CORR-SDR(I)
      SDR (NG+1) = SDR (NG)+1.
      DISTANCES ARE NOW MEASURED FROM THE PROPER REFERENCE.
C -- FIND DESIRED READINGS BY INTERPOLATION
    5 CONTINUE
      DO 7 I=1,NG
      IF (SDR (1) .6E.SG1(I)) GO TO 15
    7 CONTINUE
      CALL OUT (4MPBYP)
   15 K=1
      IF (I .EQ. 17 GO TO 16
      IF (SOR(1)-3G1(I-1) .LE. 0.15) SG(I-1)=SGR(1) +1000.
   16 DO 25 J=I,NG
      SGA=SG1(100-fIA-1)+J)
   30 IF (SDR (K+1) .LE. SGA ) GO TO 35
      K=K+1
      GO TO 30
   35 SG(J) = 1000. + (.0005+SGR(K) + (SGR(K+1) -SGR(K)) +
           (SGA - SDR(K)) / ( SDR(K+1) - SDR(K)))
   25 CONTINUE
      RETURN
      END
      FUNCTION JREC(ISEAS, DATE, NRECS, ICOD)
      DIPENSION ISEAS(2.1880).DATE(3)
      INTEGER DATE
      11=OR(SHIFT (0ATE(3),51),SHIFT(31*DATE(1)+DATE(2),42))
      DO 1 I=3,NREGS
      IF (I2 .EQ. I1) GO TO 3 IF(I2) 1,2,1
    1 CONTINUE
      I=NRECS+1
      NRECS=508+ (NRECS/508)+508
      IF (NRECS .GT. 1809) CALL OUT(4HJREC)
    2 JREC=I
      RETURN
    3 IC=ISEAS (1)1) .AND. 7E
      IF(IC .NE. 1000 .AND. IC .NE. ICOD-1) GOTO 1
      JREC=I
   WRITE (2,10)
10 FORMAT (18H OVERWRITE RECORD.)
      RETURN
      FNN
```

PROGRAM BANKL

```
PROGRAM BANKL (INPUT=65, OUTPUT=65, TAPE1=INPUT, TAPE2=OUTPUT, TAPE4)
       IMPLICIT LOGICAL (E)
C
        SORT SUBFILE SEARCH ARRAYS BY DATE.
       COMMON INDEX (201), INDEXS(1881), ISEAM(2,288), ISEAS(2,1888), DATA(8), SG1(188), SG2(12), SG(56)
       OIMENSION REC1(160), IS (1008), IT (2, 1000)
       COMMON /ONE/ CODE, NG1, NG2, NOB1, NOB2, DIAM, NG, NRECH, SAVE1, SAVE2,
            CASE(38), PLUG(30), WAD(30), PRIMER(30), AGENT(38)
       EQUIVALENCE (REC1, CODE)
CALL OPENRE (4)
       READ (1,1008) IGUN
 1000 FORMAT (15)
    1 CALL GUNCAL F 4, IGUN, ENEXT, JJ)
IF (ENEXT) STOP 100
NRECS=AND(7777B, ISEAM(2, JJ))
       DO 10 I=3,NRECS
IF (ISEAS(1,I) .EQ. 0) GO TO 5
   10 IS(I)=OR( 78 .AND. ISEAS(1,I),
            SHIFT EISEAS(1,1),-39) .AND. 77777788)
       NR=NRECS
       GO TO 15
     5 NR=I-1
   15 DO 30 I=3,NR
       IMINV=77777778
       00 20 J=3,NR
       IF ( IS(J) :GE. IMINV) GO TO 28
       K=J
       IMINV=IS(J)
   20 CONTINUE
       IS(K)=7777777B
       IT(1,1)=ISEAS(1,K)
   30 IT (2,1)=ISEAS (2,K)
       CALL MPITMS ( 4,IT,2*NRECS,1,1)
CALL STINDX 7 4,INDEX,NRECM+1)
READ (1,100#) IGUN
       IF (IGUN .NE. 8) GO TO 1
       CALL CLOSMS (4)
       END
```

PROGRAM BANKO

```
PROGRAM BANKO (INPUT=65,OUTPUT=514,TAPE4=514,TAPE1=INPUT,
           TAPEZ=OUTPUT)
     1
      IMPLICIT LOGICAL (E)
      COMMON INDEX (201), INDEXS(1001), ISEAM(2,200), ISEAS(2,1000),
           DATA(8E,SG1(100),SG2(12),SG(56)
      DIMENSION SRI(100), SRZ(12)
      COMMON/ONE/ GODE, NG1, NG2, NOB1, NOB2, DIAM, NG, NRECM, SAVE1, SAVE2,
            CASE(30), PLUG(30), MAD(30), PRIMER(30), AGENT(30)
      DIMENSION REG1(168),
                                          DATE (3), SG (56), PROL (30), PROJ (30),
           IHELP(14 ), IH(24 ), IDATE(3), IDAT1(3), IDAT2(3)
      EQUIVALENCE FREC1, CODE), (DATE, IDATE)
      COMMON /THO/INDH(200), MINV, MAXV, HOL, ICDH, IRMIN, IRMAX, JGUNS,
                  IGDI; HOLS, KODE(8), M , J, INDL (5'00), JM
      DIMENSION MOGUN (200), NORS (200), DATES (12)
      COMMON /THREE/ ITORE(1808)
      DIMENSION HOLD ( 8,12)
IBYTE(I,J,K)*SHIFT(I,1-J) .AND. COMPL(MASK(59+J-K))
      CALL OPENRE & 4)
      DIAM3=6006.FFDIAM*DIAM*DIAM)
  999 READ ( 1,1088) ICD, DATA
 1000 FORMAT (15,7810,85)
  998 IF(ICD-1) 128,1,105
  110 CALL STINDX64, INDEX ,201)
      CALL CLOSHS € 4)
      STOP
    1 DECODE (75,1002,DATA) NGUN, (IHELP(I),I=1;NGUN)
 1002 FORMAT (15157
DO 100 I=1,NGUN
      CALL GUNCAL & 4, IHELP(I), ENEXT, INDM(I))
      IF (ENEXT) STOP 1
  100 CONTINUE
      JGUNS=NGUN
      DATA HOA/10RGUN NOS
      HOL=HOA
      GO TO 150
 185 DECODE (75,1884,DATA) AMINY,AMAXY
1884 FORMAT (255.8)
      ICOM=ICO-1
      IRMIN=4
       IRPAX=NRECH
      GO TO (2,3,4,5,6,7,8) ICOH
      VELOCITY
C --
    Z MINV=APINV
      HAXV=AHAXV
      CALL SELECT (1,31,45)
      GO TO 150
      CHARGE WEIGHT
C --
    3 CONTINUE
      WINY=DIAMSFAMINY
      MAXV=DIAH3FAMAXV
      CALL SELECT #1,16,30)
      GO TO 150
      NUMBER OF ROUNDS SHOT
    4 MINV=AMINV+41
      MAXV=AMAXV+5
      CALL SELECT $1,1,15)
      60 TO 158
    FATE OF FIRE (RDS/MIN)
5 HIRV=25. *AMENV+.1
      MAXV=25. + AMAXV+.1
      CALL SELECT12,49,68)
      GO TO 150
```

```
C -- NUMBER RCS/BURST
    6 MINV=AMINV++1
       IS+VXAMA=VXAM
       CALL SELECT (2,37,48)
       60 TO 158
   -- GAUGINGS
    7 MINV=1000. FAMINV+.1
       MAXV=1000. FAMAXV+. 1
       CALL SELECT #2,25,36)
       GO TO 150
       MAX PRES
     8 MINV=AMINV+45
       MAXV=AMAXV+45
       CALL SELECT (2,13,24)
  150 WPITE ( 2,1006) JGUNS, HOL
 1886 FORMAT (1H815,27H GUNS WERE CHOSEN BASED ON A10,28H LIST OF GUN NU
     1MBERS FOLLOW! )
      IF (JGUNS .NE. 1) GO TC 155
EYPASS UNNEEDED CARDS
  160 READ 1000, ICB, DATA
       IF (ICD .LE. 18) GO TO 998
       60 TO 168
  155 DO 165 I=1,0GUNS
       IN=INDM(I)
       MOGUN(I) = 18TFE (ISEAM(1,IN),46,60)
  165 NORS(I)=IBYTE (ISEAM(2,IN),1,12)
 WRITE ( 2,1888) (NOGUN(I), I=1, JGUNS)
1088 FORMAT (1X12118)
  170 READ (1,1007) (HOLD(I,IZ),I=1,8)
 1887 FORMAT (8A18)
GECOCE (5,1880,HOLD(1,17)) ICO
       17=17+1
      "IF (ICO .GT; 10) 60 TO 170
       17=17-5
       CALL UP DESIRED SUBINDEX
       DO 997 KITTY=1, JGUNS
       CALL READMS & 4, INDEXS(1), NORS(KITTY)+1, INDM(KITTY))
CALL STINDX & 4, INDEXS, NORS(KITTY)+1)
CALL READMS & 4, ISEAS, 2*NORS(KITTY), 1)
       SELECT RECORDS TO BE READ FROM DISK DO 257 IY=1,IZ
       DECODE (80,1800,HOLD(1,IY)) ICD, DATA
  995 IRMIN=3
       IRMAX=NORS (KITTY)+1
      IF (ICD-11) 998,200,205
SELECT BY RECORD NUMBER
 Z00 CECODE (75,1810,DATA) NS,(INDL(I),I=1,NS)
1010 FORMAT (2513)
       DATA HOA1/18HRECORD NO /
       HOLS=HOA1
       IF (NS .EQ. 0) 60 TO 201
       J=NS
       GOTO 258
  281 J=IRMAX-IRMIN+1
       DO 203 I=1,J
  503 INOL(I)=I+2
  GO TO 250
285 IF (ICD .NE& 12) GO TO 210
 DECODE (75,1812,DATA) I GAT1, I GAT2, M, (KODE (I), I=1, M)
1812 FORMAT (1515)
       MINY =SHIFT (MOD (IDAT1(3), 100), 9) .OR. (31+IDAT1(1)+IDAT1(2))
       PAXV = SHIFFEMOD(IDAT2(3), 100), 9) .OR. (31*10AT2(1)+10AT1(2))
       CALL SEL4
                     £1,43,60)
  GO TO 250
210 ICDI=ICO-12
```

```
DECODE (75, 1804, DATA) AMINY, AMAXY
      GO TO(13,14,15,16,17,18,19),ICDI
   13 CONTINUE
      MINA=DIWA±WINA
      WAXW=DIAH3 FAMAXV
      CALL SEL 2 (2,46,60)
      60 TO 258
   14 HINV=AMINV+.1
      MAXV=AMAXV+#1
      CALL SELZ #1,4,15)
GOTO 258
   15 HINV=25. *APINV+.5
      MAXV=25.7AMAXV+.5
      CALL SEL2 (1,16,30)
      GO TO 250
   16 MINV=AMINV+.1
      MAXV=AMAXV+51
       CALL SEL2(2,1,12)
      GO TO 258
   17 MINV=AMINV+41
      15+VXAMA=VXAM
      CALL SEL3 (1,28,42)
      GO TO 250
   18 HINV=AMINV+65
      HAXV=AHAXV+35
      CALL SEL2 (2,22,30)
   19 FINV=APINV+45
      MAXV=AMAXV+U5
      CALL SEL2 (2,31,45)
C --
      WRITE OUT DATA
C --
      THE WORD NUMBERS OF THE INDEX ARRAY CONTAINING DATA OF INTEREST
C --
            ARE STORED IN INDL.
  250 CONTINUE
      WRITE (2,1015) NOGUN(KITTY),J
 1015 FORMAT 111-IGUN NUMBER 16, 14.16, 19H RECORDS REQUESTED.)
  IF(J) 251,251,252
251 WRITE (2,1013)
 1913 FORMAT (8H NO DATA )
      6010 256
  252 DO 255 LOOP41,J
      LOO=INDL (LCOP)
      ISEA1=ISEAS+1,LOO )
      ISEAZ=ISEAS(2,LOO)
       J1=18YTE (ISEA2,12,21)
      ISEA3=AND(ISEA2,37778)
      IF (ISEA1 .EQ. 0) GOTO 257
       IDATE (1) =1 8 Y FE (1 SEA1, 52, 60)
      IDATES=18YTE(ISEA1,43,51)
      IDATE (3) = (18ATES-1)/31
       IDATE(2) = IDATES-31+IDATE(3)
       IDATE1=IDATE(3)
      DATA DATES /3HJAN, 3HFEE, SHMARCH, SHAPRIL, 3HMAY, 4HJUNE, 4HJULY, 3HAUG,
            4HSEPT, SHOCT, SHNOV, SHEEC/
      WRITE ( 2,1814) DATES(10ATE1), 10ATE(2), 10ATE(1)
 1014 FORMAT (1H0/2H0A5, 13, 4H, 1912)
      IC1=AND (78, ISEA1)+1
      GO TO (260,261,262,262,262,264,264,267),IC1
      PLUG GAUGE ONLY
  260 CALL READMS € 4, ITORE, 2, J1)
WRITE ( 2, 1816) ITORE(2), ITORE(2)
 1016 FORMAT (ZOHOPLUG GAGE READINGS:A5,5H AND R5)
      GO TO 255
C -- STARGAUGE REBORD
  261 CALL READMS & 4, ITORE, ISEA3, J1)
WRITE (2,1016) ITORE(2), ITORE(2)
       NG1=77777777778 .AND. TTORE(1)
```

```
NG2=18YTE (ITORE(1),31,60)
      CALL SGR (N61+3, ITORE, 1, NOR1, SG1, SR1)
      IF (NG? .NE:8) CALL SGR(NG2+3, ITORE, Z, NOB2, SG2, SR2)
      60 TO 255
      FIRING DATA
C --
  262 ISEAH=IBYTEFISEA1,31,42)
       CALL READMS (4, ITORE, ISEAH, J1)
       WRITE (2,1011) ITORE(1), ITORE(1)
 1011 FORMAT (1XA5, 20H PREVIOUS ROUNDS OR, R5, 5H ESR.)
       WRITE (2,1016) ITORE(2), ITORE(2)
 DECODE (10,2018, ITORE(3)) IAMB, NPROL, NPROJ
1018 FORMAT (13,212)
       IF (IAMB .NE. 999) WRITE (2,1017) IAMB
 1017 FORMAT (25H AMBIENT TEMPERATURE WAS 14)
       II=10+ (NPROL+NPROJ)
                                   1019, ITORE (4)) (PROL (I), I=1, NPROL),
       DECODE (II,
             (PROJ([], I=1, NPROJ)
 1819 FORMAT (8A18)
       NEXTI=4+NPROL+NFROJ
       ROUND SETUP
  271 IF (NEXTI .GT. ISEAH) GO TO 255
       IT=ITORE (NEXTI)
       NEXTI=NEXTI+1
       IDIR=1+AND (78,IT)
       GO TO (270,275,280), IDIR
   270 CASES=CASE (EBYTE (IT, 55,68))
       PLUGS=PLUG(IBYTE(IT, 49,54))
       MACS=WAD (I BYTE (IT, 43, 48))
       AGENTS=AGENT (IT, 37,42)
       PRIMERS = PRIMER (IBYTE (IT, 31, 36))
       PRCLS=PROL (IBYTE(IT, 25,30))
       PROJS=PROJ(IBYTE(IT, 19,24))
       IROTEMP=IBYTE(IT, 10, 18)-108
        WRITE (2,1028) CASES, PLUGS, MADS, AGENTS, PRIMERS, PROUS, PROLS, IROTEMP
  1020 FORMAT (6HOCASET A10,8H PLUGE A18,7H MADE A10,9H AGENTE A10,10H
         PRIMER: A18, 14H PROJECTILE: A18/6X12HPROPELLANT: A10, 15H CONDIT
      210NED ATIS, 9H DEGREES.)
       GO TO 271
   275 ITIME=IBYTE (IT, 46,60)
       SINGLE FIRE
        CH=FLOAT (I EYTE (IT, 31,45))/DIAM3
        VEL=FLOAT(IBYTE(IT,16,30))
        PRES=FLOAT (18YTE (IT, 4, 15)) /18.
  WRITE ( 2,1022) ITIME, CH, VEL, PRES
1022 FORMAT (6H TIME:16, 8H CHARGE:F9.4,16H LBS. VELOCITY: F6.0,15H F/S
       1. PRESSURE:F6.1,6H KPSI.)
        GO TO 271
 C -- RAPID FIRE
   288 ITIME=18YTE (IT, 46,68)
        CH=FLOAT (IBTTE (IT, 31,45))/DIAM3
        NRDS=I PYTE (IF, 16,30)
        PRESL=FLOAT(IBYTE(IT,4,15))/10.
        IT=ITORE (NEXTI)
        NEXTI=NEXTI+1
        RATE=FLOAT (18YTE(17,46,60))/25.
  MRITE ( 2,1824) ITIME, CH, NRDS, RATE, PRESL
1824 FORMAT (6H TIME:16,8H CHARGE:F9.4,118,16H ROUNDS FIRED ATF18.2,11H
       1 ROS/MIN. 19H THE LAST PRESSURE (F6.1)
        IF (AND(18,17) .EQ. 1) CALL RBU(NRDS,1,1TORE,NEXTI)
IF (AND(28,17) .GT. 8) CALL RBU(NRDS,2,1TORE,NEXTI)
    GO TO 271
264 WRITE ( 2,1826) IC1
   1826 FORMAT ( 1H8/12H8ERROR--IC1=12)
        STOP
     -- ALPHA RECORD
    267 CALL READMS $4, ITORE, ISEA3, J1)
```

```
WRITE (2,1028) (ITORE(I),I=2,ISEA3)
1028 FORMAT (1X8A10)
 255 CONTINUE
 257 CONTINUE
 256 CALL STINDX 84, INDEX , 201)
 997 CONTINUE
     CECODE (80,1808, MOLD(1,17+1)) ICO, DATA
     GO TO 998
     END
     SUPROUTINE SPLECT
                              (N,I1,I2)
     DIPENSION HO(7), HP(8)
     COPMON INDEX (201), INDEXS(1001), ISERM(2,200), ISERS(2,1000),
           DATA(8),SG1(100),SG2(12),SG(56)
     COMMON/TWO/INDH(200), K, L, HOL, ICOH, IRMIN, IRMAX, JGUN,
                                                                          ICCI.
          HOLS, KODE (8), N, J, INDL (588), JM
     IRYTE (I,J,K)=SHIFT(I,1-J) .AND. COMPL(MASK(59+J-K))
DATA HO/18HVELOCITY ,18HCHARGE MT ,18HNO OF RCS /18HBURST RATE,
    1
           10HRDS/EURST ,10HEORE DIAM ,18HMAX PRES
     JGUN= 8
     CO 1 I=IRMIN, IRMAX
     II=IBYTE (ISBR#(N,I),I1,I2)
     IF (II .LT. K .OR. II .GT. L) GO TO 1
     JGUN=JGUN+1
     INDM (JGUN) = E
   1 CONTINUE
     HOL=HO (ICDH)
     RETURN
     ENTRY SEL2
     DATA HP/10HDATE
                             , 10HO 8 DIAM , 10HBURST RATE, 10HROS FIRED ,
    1 10HCHARGE HT , 10HVELOCITY , 10HPRESSURE , 10HRDS/BURST /
     J=0
     CO 2 I=IRMIN, IRMAX
     II=IBYTE (ISERS(N,I),I1,I2)
     IJ=70 .AND. ISERS(1,I)

If((II .LT. K .OR. II .GT. L) .OR. IJ .EQ.7 .OR. IJ .LE. 1)GOTO?
     J=J+1
     INOL (J) = I
   2 CONTINUE
     HOL=HP (ICDI)
     RETURN
     ENTRY SEL3
     J= 0
     CO 3 I=IRMIN, IRMAX
     II=IPYTE (ISERS(N,I),I1,I2 )
     IJ=70 .AND. ISERS(1,1)
     IF (IJ .GE.2 .OR. II .LT. K .OR. II .GT. L) GO TO 3
      J=J+1
     INCL (J)=I
   3 CONTINUE
     HOLS=HF(ICDIT
     RETURN
     ENTRY SEL4
     J=0
     DO 4 I=IRMIN, IRMAX
     IJ=78 .AND. ISERS (1,1)
DO 5 19=1,M
     IF (IJ .EQ. KODE(19)) GO TO 6
   5 CONTINUE
     GO TO 4
   E II=IBYTE(ISERS(N,I),I1,I2)
     IF(II .LT. K .OR. II .GT. L) GO TO 4
      J=J+1
     INDL(J)=I
   4 CONTINUE
     RETURN
      END
```

```
SUPROUTINE RBU (N,I,ITCRE, NEXTI)
 CIPENSION ARZ), ITORE (1000), PAR(608)
 REAL INYTE
 DATA A/18HPRESSURES , 18HVELOCITIES/
 IBYTE(I, J, KN=8*FLOAT(SHIFT(I, 1-J) .AND. COMPL(MASK(59+J-K)))
 12=(N+3)/4
 t =9
 IF (1.EQ.1)8=8.1
  CO 1 11=1,12
 IT=ITORE (NEXTI+I1-1)
 PAR(4+11-3)=IBYTE(1T,46,68)
 PAR(4+11-2)=18YTE(1T,31,45)
 PAF(4*11-1) 418 YTE(17, 16, 38)
1 PAR (4*I1)=IBTTE(IT,1,15)
 NEXTI=NEXTI+12
  WRITE ( 2,2) A(I), (PAR(I), I=1,N)
2 FORMAT ( 7H BURST A10, 32H FOLLOW. (READ ACROSS THE PAGE.)/(1X12F10
1.1) )
 RETURN
 END
  SUPROUTINE SGR (NT, ITORE, ITIME, NOB, SG, SR)
 DIMENSION ITORE (1000), SG (NT), SR (NT), TYPE (2)
 REAL TEYTE
  DATA TYPE /5HALPHA,5HGAMPA/
 IBYTE(I, J, KI=FLOAT (AND (SHIFT(I, 1-J), COMPL(MASK(59+J-K))))/1000.
 ICT=NT/4
  IF (ITIME .EQ. 1) ICOUNT=2
  DO 1 I=1,1CF
  ICOUNT=ICOURT + 1
  IT=ITORE (ICOUNT)
  SR(4*1 -3) = EBYTE(IT,46,60)
  SR (4+1 -2) = 18YTE (17, 31,45)
  SR (4*1 -1) = $ BYTE (IT, 16,30)
1 SR(4*I )=IENTE(IT,1,15)
  NG=NT-3
  WRITE ( 2,2) TYPE(ITIME), SR(NOB), (SG(I),SR(I),I=1,NG)
FORMAT T21MBSTARGAUGE READINGS (A5,25H). THE ORIGIN READING I
15F7.3, 1H./1H86 (20HDISTANCE READING )/(1X6(F18.2,F18.3)))
  RETURN
  END
```

PROGRAM POINT

```
PROGRAM FOINT (INFUT=256, OUTPUT=256, TAPE4=513.
                                                                          TAPE 1=
                                                                                       Distant and
          INPUT, TAFE2= OUTPUT)
                                                                                       u 00111
       IPPLICIT LOGICAL (E)
                                                                                       40112
       CCMMON INDEX (201), INDEXS (10 01), ISEAM (2, 200), ISEAS (2, 1000),
                                                                                       003130
                                                                                       . 41141
           OATA(6).561(103).5G2(12).5G(56)
       COMMUN /CHE/ CUUE, NGA, NGO, NOBI, NG62, UIAF, NG, NKECH, SAVEI, SAVE 2,
                                                                                       u 01156
           CASE (30) . FLLG (30) . MAD (30) . PRIMER (31) . AGENT (36)
                                                                                       ũ c 3160
      DIMENSION ITCRE (1000), ISAve (1000), RECT(160), DIST(15), ILIST(15),
                                                                                      3 4 1173
     1 JLIST(6), SHOT(5JU), SUAR: (E, 5UD), ISG(6)
DIMENSIUN ILIST1 (15)
                                                                                       0 4 1193
       DIMENSION SET (100), SR2(12)
                                                                                       36.1240
       EGUIVALENCE (REC1.CODE)
                                                                                       464217
       DATA (SHOT(I),I=1.500) /500+160000./.NFCCT/0/.EEGCT/1./
IEYT5 (I.J.K)= Shiff(I.1-J) .AND. COMFL(MASK(69+J-K))
                                                                                       udliés
                                                                                       UL1235
C--THIS PROGRAM WILL FETCH WEAR VS NUMBER OF ROUNDS FIRED DATH FOR
                                                                                       831243
        FLOTTING.
                                                                                       000250
       CALL CONNEC (SLINFUT)
CALL CONNEC (GLOUTPUT)
                                                                                       403268
                                                                                       420274
       PRINT 1J4
                                                                                       007281
       READ 1070, HELF
                                                                                       403250
 1078 FCKMAT (A16)
                                                                                       JU 1295
       IF (HELF .EG. 2LNO) GO TO 150
                                                                                        00600
       PRINT 1650, (Sc1(11),11=1,NG4)
                                                                                        ₽ ₽ ₽ ₽ 3 1 E
 1850 FCRMAT ("JOODE=1 FOR ROUND DOUNT FROM ISFAS ARREY, =2 FOR NUMBER | 00032
     11N RECORD."/" =3 FUR ESR COURT FROM USEF FUNCTION. =4 FOR ESP FRCF3033"
      ZISLAS ARPAY"/" POSSIBLE STAFGAUDE DISTANCES (ALPHA) FOLLORI"/
                                                                                       600340
      3(1% 9F 8.2))
                                                                                       004350
       PRINT 1.60. (5G2(11).11=1,NG3)
                                                                                       L.J36:
 1860 FCRMAT ("FGSSIBLE STARGAUGE DISTANCES (CAMMA) FCLLCR:"/(1x9F8.2)) #3.37:
       CALL CFENHE (4)
                                                                                        661389
  150 DIAM3=6600./CIAM##3
                                                                                       033390
                                                                                        000400
       PRINT 1021
 1848 FCRMAT (" DO YOU NEED INSTRUCTIONS?")
1820 FORMAT ("ENTER GUN NUMBER, JCJDE")
                                                                                       444441
      READ (1.* ) IGUNNG, JCCCE
IF (IGUNNO . EQ. 0) CALL CLCSM_(4)
                                                                                       663433
                                                                                       003-46
       IF (IGUNNC .EG. J) STOP
CALL GUNCAL ( 4.IGUNNU.ENEXT.LGUN)
                                                                                       3.1451
                                                                                       640465
       IF (ENEXT) CALL OUT (SHEGINT)
                                                                                       648470
       NCRS = IdYTE(ISEAM(2,LGUN),1,12)
                                                                                       4331-83
C--CALL UP SUBINDEX
                                                                                       000493
       CALL REALMS 1 4. INDEXS, NORS+1. LGUN)
       CALL STINDX ( 4, INDEXS, NOR5+1)
GALL REACHS ( 4, ISEAS, 2*NORS, 1)
                                                                                       363513
                                                                                       00152
 PRINT 1630 603580 1030 FORMAT ("ENTER 1 FOR ALPHA, 2 FOR GAMMA: NUMBER OF DISTANCES: CISTU60540
     1 ANCES")
                                                                                       001550
       READ (1,4
                     1 10F,11, (CIST(1), I=1,11)
                                                                                       803561
      EUP=IUP .EQ. 1
IF (EUP) GO TO 10
                                                                                       000570
                                                                                       463584
       00 15 I=1,II
                                                                                       JJJ591
       DO 20 J=1.NGD
       IF (ApS(GIST (1)-SG2(J)).GT. 3.1) GO TO 20
                                                                                       4 2 2 6 1 3
       ILIST(I)=J
                                                                                       407620
       GO TO 15
                                                                                       060033
   20 CONTINUE
                                                                                       093649
                                                                                       <u>u</u> ii J650
   STOP2
15 CONTINUE
                                                                                       000000
       60 TO 35
                                                                                       600674
   18 DO 25 1=1.II
                                                                                       880680
                                                                                       493697
       DO 33 J=1.NGA
```

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1F (AoSt0151(11+S61(J)) .61. J.11 60 TO 30
                                                                                    ********
      ILIST (I) = J
                                                                                    000710
      6C TO 25
                                                                                    050720
  30 CCNTINGE
                                                                                    000730
      STOF3
                                                                                    000740
                                                                                    603750
  25 CONTINUE
     ELIST = . TRUE .
                                                                                    663760
     DC 40 I=1.II
DC 45 J=1.NGE
                                                                                    ¥€9770
      IF (A05(GIST(I)-SG2(J)).GT. 0.1) GD TO 45
                                                                                    831791
      ILIST1(I)=J
                                                                                    003003
      G. TO 40
                                                                                    # Bu819
  45 CCNTINUE
                                                                                    .03621
     ELIST= . FALSE .
                                                                                    000e3:
      60 TO 35
                                                                                    006843
  40 CONTINUE
35 NSUB=1
                                                                                    800450
                                                                                    000360
      NEDCT = J
                                                                                    003c7L
      NESR= 0
                                                                                    002883
     EGAUGE = . FALSE .
                                                                                    000090
     ESTART=.TRUE.
                                                                                    009900
     NRECS=AND(77776, ISEAM(2, LGUN))
                                                                                    000913
      DO 50 I=3, NRECS
                                                                                    34142C
     ISUA1=ISEAS(1,I)
                                                                                    8.1430
      IF (ISEA1 .EC. 6) 60 TO 51
                                                                                    866943
      ISEA2=ISEAS(2.1)
                                                                                    000551
      J1= 18 YTE (ISE A2, 12, 21)
                                                                                    000960
      IL1=AND (78, ISEA1)+1
                                                                                    013976
      ISC A3= AND (15E A2 , 37778)
                                                                                    000560
      GO TO (50.55.63.63.63.53.50.53).IC1
                                                                                    403995
  55 CCNTINUE
                                                                                    001650
     IF (EGAUGE) GO TO 50 CALL READMS ( 4. ITORE, ISEA3, J1)
                                                                                    001310
                                                                                    UJ1120
      NG1=ANU (7777777770.1TCRE(1))
                                                                                    301333
      NG2=18YTE (1TCKE(1),31,60)
                                                                                    Cu1040
      CALL SGZ (NG1+3, ITORE, 1, NC31, SGL, SR1)
                                                                                    031450
                 EUF1 GO TO 70
     IF (
                                                                                    001660
      IF (NG2 .EU. 3) GO TO 58
CALL SGZ (NG2+3.ITOFE,2,NO82,SG2,SR2)
                                                                                    601270
                                                                                    001066
     00 75 N=1.II
                                                                                    0 31 9 9 1
      K=ILIST(N)
                                                                                    60110E
  75 SGARK (N.NSUB)=SR2(K)
                                                                                    001110
     NSUb=NSUB+1
                                                                                    001120
     EGAUGE - TRUE .
                                                                                    001130
     60 TO 50
                                                                                    601140
  78 DC 63 N=1,II
                                                                                    0 81150
      K=ILIST(N)
                                                                                    001160
  88 SGARR (N.NSUB)=SR1(K)
                                                                                    421177
     NSUB=NSUB+1
                                                                                    001180
     EGAUGF=. TRUE.
                                                                                    001190
     GC TO 58
                                                                                    ·01243
  68 EGAUGE=.FALSE.
                                                                                    001210
     LSUB=NSUE
                                                                                    w01220
     IGOUNT=IBYTE (ISEAS (1, 1), 31, 42)
                                                                                    661233
      JK=18YTE (ISEAS(2,1),12,21)
                                                                                    661243
     GO TO (101,102,193,194), JCODE COUNT NUMBER OF ROUNDS FIRED
                                                                                    101256
                                                                                    0 G1 260
 181 CONTINUE
                                                                                    881270
      SHOT (NSUB)= HRDCT=NROCT+18YTE (ISE AS (1, 1), 4, 15)
                                                                                    461280
      GO TO 50
                                                                                    881290
     OSTAIN NUMBER OF ROUNGS FIRED FROM RECOFD
                                                                                    001359
 188 CALL READMS ( 4. ITORE. ICOUNT. JK)
DECODE (10.1880. LTORE) NROCT
                                                                                    001310
                                                                                    901320
1888 FCRMAT (15)
                                                                                    001330
     SHOT (NSU8) = NFDCT+16YTE (ISEAS (1,1),4,15)
                                                                                    801340
     60 10 53
                                                                                    801350
```

```
C -- OBTAIN ESK BY CLUNT
                                                                                    ##136T
  183 CALL REACHS ( 4.ITORE.IGOUNT.JK)
NRUH=10YTE (ISEAS(1.1).4.15)
                                                                                    M01376
                                                                                    491387
       RDEG=COMESK(ITORE, ICCUNT, CIAM3)
                                                                                    401396
       RCEQCT=RCEQCT+RDEQ
                                                                                    001400
       SHOT (NSUE) = R CEQCT
                                                                                    061417
  110 IF (LSUE .EU. 1) 60 TU 50
                                                                                    001424
       IF (SHOT(LSUB-1) .LE. SHOT(NSUB)160 TO 50
                                                                                    001430
       LSUB=LSUE-1
                                                                                    881449
      SHUT (LSUB)=SHGT (NSUb)
GC TO 116
                                                                                    0 01453
                                                                                    001460
C -- OETAIN ESR FROM NUMBER IN RECORD
                                                                                    0.01470
  134 CALL MEACHS (4. ITORE, ICCUNT, JK)
                                                                                    001480
 DECODE (10.1065, ITORE) RDEGCT
1805 FCRHAT (5XI5)
                                                                                    001493
                                                                                    001500
       SHOT (NSUE)=REEQCT
                                                                                    001510
       GC TO 113
                                                                                    361520
   50 CONTINUE
                                                                                    001530
   51 NSUB=NSUE-1
                                                                                    001540
                                                                                    001550
       BO 120 I=1.NSUL
       ISHUT=SHGT(I)
                                                                                    801560
       DO 125 J=1,II
                                                                                    001570
  125 ISG(J)=1000. *SGARR(J, I)
                                                                                    061580
                                                                                    €01590
  120 MFITE ( 2,1616) (ISG(J),J=1,II), ISHOT
 1016 FORMAT (716)
                                                                                    001600
      CALL STINDX (4, INOLX, 201)
GO TO 1
                                                                                    Bu1617
                                                                                    001620
                                                                                    44 1630
       END
       SUBRUUTINE SGZ (NT. IT CRE. ITIPE, NOB, SG, SR)
                                                                                    861640
       DIMENSION ITOR: (1000) . SG(NT) . SR(NT) . TYPE (2)
                                                                                    8 4 165C
      REAL LAYTE
DATA TYPE /SHALPHA, SHGAMMA/
                                                                                    0 u 1 6 6 G
                                                                                    041673
       Idyte (I.J.K)=FLOAT (AND (SHIFT (I.1-J).COMPL (MASK(59+J-K))) /100J.
                                                                                    001660
       ICT=NT/4
                                                                                    001690
       IF (ITIME .EQ. 1) ICOUNT=2
                                                                                    001700
      00 1 I=1+ICT
ICOUNT=ICCUNT + 1
                                                                                    801710
                                                                                    001720
       IT=ITOFE (ICOUNT)
                                                                                    00173G
       SR(4*1 -3)=18YTE(IT.46,6C)
                                                                                    001740
                                                                                    081750
       SR(4+I -2)=IEYTE (IT,31,45)
    SR(4+1 -1)=18YTE(IT,16,30)
1 SE(4+1 )=18YTE(IT,1,15)
                                                                                    041760
                                                                                    A01770
       MG=NT-3
                                                                                    001760
                                                                                    001796
       RETURN
                                                                                    801800
       END
                                                                                    801820
396,1
1,2,136.,16ú.
                                                                                    001630
376,1
                                                                                    001840
1,1,136.
                                                                                    001850
                                                                                    801860
0,0
```

the table of the same of the s

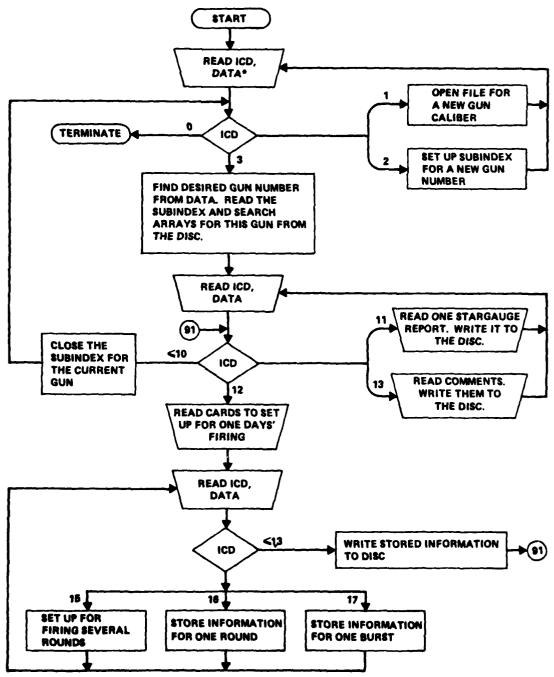
LISTING USED BY ALL PROGRAMS

```
SUPROUTINE GUT (SUB)
   COMMON INDEX (281), INDEXS(1081), ISEAM(2,200), ISEAS(2,1888),
   DATA(81,SG1(100),SG2(12),SG(56)
CALL STINDX # 4,INDEX,201)
   CALL CLOSMS # 4)
   PRINT 1, SUE
 1 FORMAT (19H1ERROR--SUBPROGRAM A18)
   STOP
   END
   SUBROUTINE GUNCAL (IFN, IGUN, ENEXT, JJ)
   LOGICAL ESTOP, ENEXT
   COMMON INDEX (201), INDEXS(1801), ISEAM(2,280), ISEAS(2,1000),
         DATA(8),SG1(100),SG2(12),SG(56)
   COMMON JONE/ TRASH(7), NRECH , OTH (152)
IBYTE (I,J,KE=SHIFT(I,1-J) .AND. COMPL(MASK(59+J-K))
WRITE ( 2,15) IGUN
15 FORMAT (11 MBGUN NUMBER 17)
 1 00 2 I=4,NRECH
    I1=18YTE (ISBAH(1,I),46,60)
   IF (I1 .EQ. IGUN) 60 TO 5 IF(I1) 2,4,2
 2 CONTINUE
    WRITE (2,10% NRECM, IGUN
10 FORMAT (27H MAIN ARRAY FILLED. NRECH = IS,7H IGUN = IS)
   CALL OUT (6MEUNCAL)
 5 JJ=I
    ENEXT= . FALSE .
   RETURN
 4 JJ=I
    ENEXT=.TRUES
    RETURN
    END
    SUBROUTINE OPENRE (IFN)
    EXTERNAL LEAVE
    COMMON INDEX (201), INDEXS(1001), ISEAH(2, 200), ISEAS(2, 1000),
         DATA(87;5G1(100),5G2(12),5G(56)
    CCHMON /ONE/ COCE, NG1, NG2, NOB1, NOB2, DIAM, NG, NRECH, S1, S2, S(150)
    CIPENSION REC1(169)
    EQUIVALENCE FREC1, CODE)
CALL RECOVE (LEAVE, 778,0)
    CALL OPENMS FIFM, INDEX, 201, 8)
    CALL READMS FIFN, REC1, 160, 1)
CALL READMS FIFN, SG, PG, 2)
    NG 0=NG 1
    IF (MOD(NG1;2) .EQ. 1) NG0=NG1+1
    DECODE (560,1,SG) (SG1(I), I=1,NG0), (SG2(I), I=1,NG2)
 1 FORMAT (112F5.2)
    CALL READMS FIFN, ISEAM, 400, 3)
    FETURN
    END
    SUBROUTINE LEAVE (IA, IE, IFIELD)
    18=1
    CALL OUT (SHLBAVE)
    END
```

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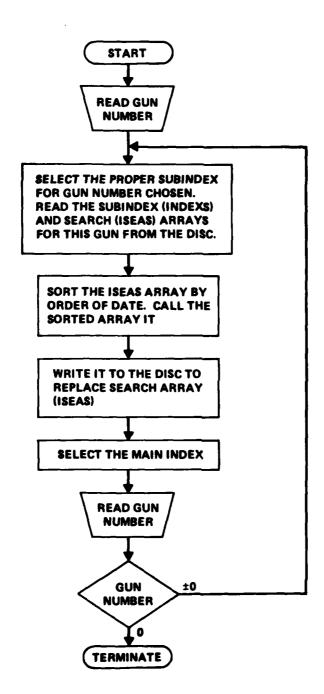
APPENDIX E
FLOW DIAGRAMS

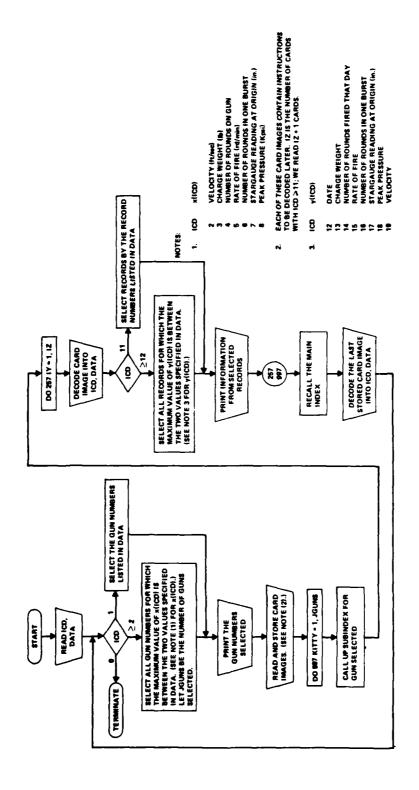
PROGRAM BANKN

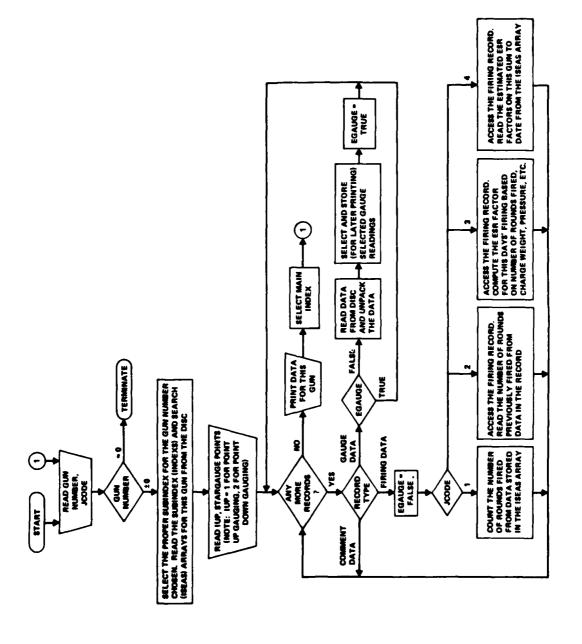


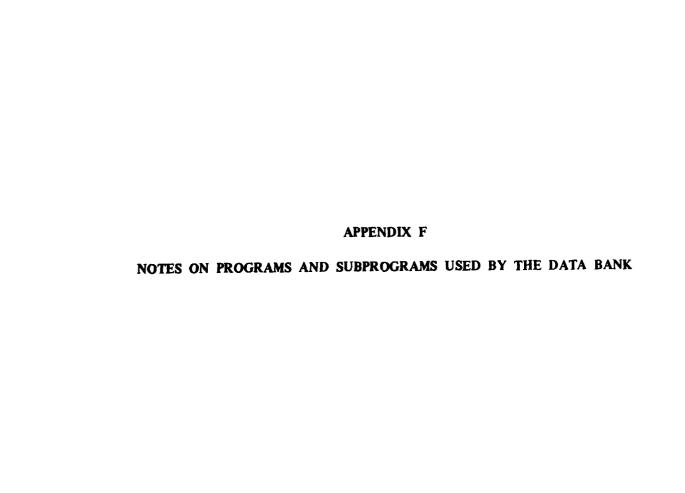
*THE DATA ARRAY IS USED FOR TEMPORARY STORAGE OF ALPHANUMERIC INFORMATION READ FROM A CARD. THIS INFORMATION IS THEN DECODED AS NEEDED.

PROGRAM BANKL









PROGRAM BANKN controls the reading of data from cards into the data bank. The following subprograms are associated with BANKN:

- 1. SUBROUTINE MARRY is used to place data in the ISEAM array, which is used to determine which gun subfiles contain requested data (Appendix B).
- 2. SUBROUTINE BURST is used to enter velocity data for multiple round bursts into the data bank.
- 3. SUBROUTINE LOOK stores the name of the cases, wads, plugs, wear-reducing agents, and primers. These data are stored in the first record of the file and are referenced as needed (Appendix B).
- 4. SUBROUTINE GAUGIN places stargauge data in the data bank. If the stargauge data are entered in a nonstandard (for this program) form, SUBROUTINE PBYP is called to help keep things straight.
- 5. FUNCTION JREC selects the record number of each record written. (As explained in Appendix B, there are provisions in the subindex for each gun for 1000 record numbers.)

The following subprograms are used by all programs used with the data bank:

- 1. SUBROUTINE OPENRE calls OPENMS to properly open the mass storage file and reads certain data from it.
- 2. SUBROUTINE GUNCAL finds the index number of the gun requested.
- 3. SUBROUTINE LEAVE and SUBROUTINE OUT help cause the mass storage file to be properly indexed to the main index and to be closed in the event of an abnormal exit (seek RECOVR below).

The following system subroutines are among those used by these programs:

- 1. RECOVR is called by OPENRE at the beginning of each run. This causes any abnormal exit to be via LEAVE rather than an abnormal end of job (an abnormal end of job would most likely destroy the mass storage file).
- 2. OPENMS properly opens the mass storage file.
- 3. READMS reads data from the mass storage file.
- 4. WRITMS writes data to the mass storage file.

- 5. STINDX charges the index used in referencing the mass storage file. The program first uses the main index (INDEX array) to reference the desired gun number, and then it uses a subindex (INDEXS array) to reference records for gun firing days or stargauging desired.
- 6. CLOSMS properly closes the mass storage file.

PROGRAM BANKL is used to sort the ISEAS array. The ISEAS array will contain references (via the INDEXS array) to firing, comment, and stargauge data. After BANKL is executed for a given gun number, these references will be by order of date.

PROGRAM BANKO will output data from the data bank. The following subprograms are associated with PROGRAM BANKO:

- 1. SUBROUTINE SELECT (main entry point) will find the guns with the data requested by the input data. ENTRY SEL2, SEL3, or SEL4 will find data for each requested gun that also meets the requirements for selected records.
- 2. SUBROUTINE RBU will unpack velocity data for a burst.
- 3. SUBROUTINE SGR unpacks stargauge data.

PROGRAM POINT is used to output data in a form convenient for graphing. This program will output stargauge readings vs rounds fired or stargauge reading vs estimated ESR factors. This program produces little output, so it can be conveniently run interactively. The following subprograms are used:

- 1. SUBROUTINE SGZ unpacks stargauge data.
- 2. FUNCTION COMESR either counts rounds fired or computes ESR factors as needed. It uses SUBROUTINE VPCAL to fill in missing velocities and pressures and user-defined FUNCTION PESR to compute ESR factors. (The PESR function computes ESR factors by the method of Smith and O'Brasky*.)

^{*}C. S. Smith and J. S. O'Brask, Preliminary Calculations for the 203mm Marine Corps Gun Howitzer Propulsion Package, Naval Surface Weapons Center, Dahlgren Laboratory Technical Report NSWC/DL TR-3734 (Appendix B), Dahlgren, VA, August 1977.

APPENDIX G
SAMPLE OUTPUT

OUTPUT FROM PROGRAM BANKN

320.00 560.00

### 175-00 137-00 143-00 04 150-00 140-00 20.00 C 20.0	GUN IS 16IN/50HK7 OF	14/50H	1K7 0F	16.000	NZ NZ	16.000 INCHES DIAMETER	ETFR							
137-00 144-00 641-00 661-00 661-00 720-00 720-00 761-00 760-00 611-00 611-00 700-00 70	ORIGIN OF	RIFL I	1 = 9K	136.00 OR	1 :6	30 INC+E	s.							
137.00 144.00 641.00 662.00 640.00 700.00 720.00 75			6			9	•	9	LONG	GAUGING	POINTS 240.00	266.00	280.00	300.88
6.00.00 6.00.00 6.00.00 6.00.00 6.00.00 720.	340.0		360.00	360.00		403.00	420 4		440.00	460.00	4.80.00	200.00	520.00	540.00
137-00 144.00 604.00 815.00 616.00 615.00 61	2.00		500.00			643.00	660.	0	680.00	700.00	720.00		D . 69	
396 396 1969 PLUGE MADE ALOGE ALOUE SERA 1969 PLUGE CARE CALLO ALOUE SERA 1969 PLUGE CARE CALLO VEL E 2559, PRES E 35, 0 COURS CARE 670,000 VEL E 2559, PRES E 35, 0 COURS CARE 670,000 VEL E 2559, PRES E 35, 0 COURS CARE 670,000 VEL E 2559, PRES E 35, 0 COURS CARE 670,000 VEL E 2559, PRES E 35, 0 COURS CARE 670,000 VEL E 2550, PRES E 37, 4 COURS CARE 670,000 VEL E 2550, PRES E 37, 4 COURS CARE 670,000 VEL E 2550, PRES E 37, 4 COURS CARE 670,000 VEL E 2550, PRES E 37, 4 COURS CARE 670,000 VEL E 2550, PRES E 35, 1 COURS CARE 670,000 VEL E 2550, PRES E 35, 1 COURS CARE 670,000 VEL E 2550, PRES E 35, 1 COURS CARE 670,000 VEL E 2550, PRES E 35, 1 COURS CARE 670,000 VEL E 2550, PRES E 35, 1 COURS CARE 650,000 VEL E 2	5.706		915.60		_									
396 1969 PLUGA OURS CMA FOR 1010 VEL x 2572, PRES = 30.9 OURS CMA FOR 1010 VEL x 2552, PRES = 37.0 OURS CMA FOR 1010 VEL x 2552, PRES = 37.0 OURS CMA FOR 1010 VEL x 2552, PRES = 37.0 OURS CMA FOR 1010 VEL x 2552, PRES = 37.0 OURS CMA FOR 1010 VEL x 2552, PRES = 37.0 OURS CMA FOR 1010 VEL x 2552, PRES = 37.0 OURS CMA FOR 1010 VEL x 2552, PRES = 37.0 OURS CMA FOR 1010 VEL x 2552, PRES = 37.0 OURS CMA FOR 1010 VEL x 2552, PRES = 37.0 OURS CMA FOR 1010 VEL x 2552, PRES = 37.0 OURS CMA FOR 1010 VEL x 2552, PRES = 37.0 OURS CMA FOR 1010 VEL x 2552, PRES = 37.0 OURS CMA FOR 1010 VEL x 2550, PRES = 37.0 OURS	136.0		137.00		_	801.00	815.	0.0	\$ +0 F1	GAUGING	POINTS			
396 1969 PLUG** PLU	GUN NUMBE		396											
12. 1969 PLUG** PLUG** PLUG** PLUG** PLUG** 957 PRES = 30.9 957 PRES = 35.0 957 PRES = 35.0 957 PRES = 35.0 1056 PRUGUSS CM** 670.0 10 VEL **	GUN NUMEE	V TOUS	396 ROUNDS		PREV	1015 ESR	.•							
PU 10 PU 10 PU PU PU PU PU PU PU P	2	106	ď											
PD 10293 PROL AT 90 DEC, PRJJETNERT 1900 957 MOURS CM# 670.00 VEL # 2556, PRES # 32.0 1015 MOURS CM# 670.00 VEL # 2596, PRES # 32.0 1015 MOURS CM# 670.00 VEL # 2596, PRES # 32.0 1015 MOURS CM# 670.00 VEL # 2597, PRES # 31.4 1015 MOURS CM# 670.00 VEL # 2597, PRES # 31.4 1015 MOURS CM# 670.00 VEL # 2597, PRES # 31.4 1015 MOURS CM# 670.00 VEL # 2597, PRES # 31.4 1015 MOURS CM# 670.00 VEL # 2597, PRES # 31.4 1016 MOURS CM# 670.00 VEL # 2647, PRES # 35.3 1017 MOURS CM# 670.00 VEL # 2647, PRES # 35.3 1018 MOURS CM# 670.00 VEL # 2647, PRES # 35.3 1019 MOURS CM# 500.00 VEL # 2290, PRES # 35.4 1010 MOURS CM# 500.00 VEL # 2590, PRES # 32.1 1011 MOURS CM# 590.00 VEL # 2590, PRES # 32.1 1011 MOURS CM# 590.00 VEL # 2590, PRES # 32.1 1017 MOURS CM# 590.00 VEL # 2590, PRES # 32.1 1018 MOURS CM# 590.00 VEL # 2590, PRES # 33.1 1019 MOURS CM# 590.00 VEL # 2590, PRES # 33.1 1010 MOURS CM# 590.00 VEL # 2590, PRES # 33.1 1017 MOURS CM# 590.00 VEL # 2590, PRES # 33.1 1018 MOURS CM# 590.00 VEL # 2590, PRES # 33.1 1019 MOURS CM# 654.00 VEL # 2597, PRES # 33.1 1019 MOURS CM# 654.00 VEL # 2597, PRES # 33.1 1010 MOURS CM# 654.00 VEL # 259						¥	þ		AGENT		PRIMER	15-3		
957 HOURS CW# 670.0 UVL # 2529, PRES # 30.9 1066 HOURS CW# 670.0 UVL # 2545, PRES # 32.0 1106 HOURS CW# 670.0 UVL # 2545, PRES # 32.0 1105 HOURS CW# 670.0 UVL # 2545, PRES # 31.0 1105 HOURS CW# 670.0 UVL # 2556, PRES # 31.0 1105 HOURS CW# 670.0 UVL # 2556, PRES # 31.0 1105 HOURS CW# 670.0 UVL # 2556, PRES # 32.3 1548 HOURS CW# 670.0 UVL # 2565, PRES # 34.1 1549 HOURS CW# 670.0 UVL # 2565, PRES # 35.5 1549 HOURS CW# 670.0 UVL # 2545, PRES # 35.5 1549 HOURS CW# 670.0 UVL # 2546, PRES # 35.5 1401 HOURS CW# 500.0 UVL # 2234, PRES # 35.5 1401 HOURS CW# 500.0 UVL # 2250, PRES # 32.1 1104 HOURS CW# 500.0 UVL # 2550, PRES # 33.1 1105 HOURS CW# 590.0 UVL # 2550, PRES # 33.1 1105 HOURS CW# 590.0 UVL # 2550, PRES # 33.1 1107 HOURS CW# 590.0 UVL # 2550, PRES # 33.1 1107 HOURS CW# 590.0 UVL # 2550, PRES # 33.1 1107 HOURS CW# 590.0 UVL # 2550, PRES # 33.1 1107 HOURS CW# 590.0 UVL # 2550, PRES # 33.1 1107 HOURS CW# 590.0 UVL # 2550, PRES # 33.1 1107 HOURS CW# 590.0 UVL # 2550, PRES # 33.1 1107 HOURS CW# 590.0 UVL # 2550, PRES # 33.1 1107 HOURS CW# 590.0 UVL # 2550, PRES # 33.1 1107 HOURS CW# 590.0 UVL # 2550, PRES # 33.1 1107 HOURS CW# 590.0 UVL # 2550, PRES # 33.1 1107 HOURS CW# 590.0 UVL # 2550, PRES # 33.1 1107 HOURS CW# 590.0 UVL # 2550, PRES # 33.1 1107 HOURS CW# 654.0 UV VL # 2550, PRES # 33.1 1107 HOURS CW# 654.0 UV VL # 2550, PRES # 33.1 1107 HOURS CW# 654.0 UV VL # 2550, PRES # 33.1 1107 HOURS CW# 654.0 UV VL # 2550, PRES # 33.1 1107 HOURS CW# 654.0 UV VL # 2550, PRES # 33.1 1107 HOURS CW# 654.0 UV VL # 2550, PRES # 33.1 1107 HOURS CW# 654.0 UV VL # 2550, PRES # 33.1 1107 HOURS CW# 654.0 UV VL # 2550, PRES # 33.1 1107 HOURS CW# 654.0 UV VL # 2550, PRES # 33.1 1107 HOURS CW# 654.0 UV VL # 2550, PRES # 33.1 1107 HOURS CW# 654.0 UV VL # 2550, PRES # 33.1 1107 HOURS CW# 654.0 UV VL # 2550, PRES # 33.1 1107 HOURS CW# 654.0 UV VL # 2550, PRES # 33.1 1107 HOURS CW# 654.0 UV VL # 2550.0 PRES # 33.1 1107 HOURS CW# 654.0 UV VL # 2550.0 PRES # 33.1 1107 HOURS CW# 654.0 UV VL # 2550.0 PRES # 33.1 1107 HOURS CW# 654.0 UV VL # 255	5	10293	000		JE G.	PR3J*INE	RT 190							
1006 HOURS CMs 670.00 VEL = 2560, PRES = 32.0 1015 HOURS CMs 670.00 VEL = 2545, PRES = 32.0 1015 HOURS CMs 670.00 VEL = 2547, PRES = 31.2 1015 HOURS CMs 670.00 VEL = 2557, PRES = 31.2 1015 HOURS CMs 670.00 VEL = 2550, PRES = 31.2 1521 HOURS CMs 670.00 VEL = 2564, PRES = 34.1 1521 HOURS CMs 670.00 VEL = 2544, PRES = 34.1 1539 HOURS CMs 670.00 VEL = 2544, PRES = 34.1 1544 HOURS CMs 670.00 VEL = 2544, PRES = 35.3 1011 HOURS CMs 500.00 VEL = 2544, PRES = 27.1 1011 HOURS CMs 500.00 VEL = 2544, PRES = 27.1 1010 HOURS CMs 500.00 VEL = 2544, PRES = 37.1 1101 HOURS CMs 500.00 VEL = 2549, PRES = 37.1 1101 HOURS CMs 590.00 VEL = 2549, PRES = 37.1 1101 HOURS CMs 590.00 VEL = 2549, PRES = 37.1 1101 HOURS CMs 590.00 VEL = 2549, PRES = 37.1 1101 HOURS CMs 590.00 VEL = 2549, PRES = 37.1 1101 HOURS CMs 590.00 VEL = 2549, PRES = 37.1 1101 HOURS CMs 590.00 VEL = 2549, PRES = 37.1 1101 HOURS CMs 590.00 VEL = 2549, PRES = 37.1 1101 HOURS CMs 590.00 VEL = 2549, PRES = 37.1 1101 HOURS CMs 590.00 VEL = 2549, PRES = 37.1 1101 HOURS CMs 654.00 VEL = 2554, PRES = 37.1 1101 HOURS CMs 654.00	957	HOURS		78.	VEL	2.5	129. PR	s	30.9					
1015 HOURS CHE 670.010 VEL 2595, PRES = 32.8 1105 HOURS CHE 670.010 VEL 2557, PRES = 31.4 1105 HOURS CHE 670.010 VEL 2557, PRES = 31.4 1105 HOURS CHE 670.010 VEL 2550, PRES = 31.4 1547 HOURS CHE 670.010 VEL 2550, PRES = 34.1 1559 HOURS CHE 670.010 VEL 2550, PRES = 34.1 1559 HOURS CHE 670.010 VEL 2550, PRES = 34.1 1559 HOURS CHE 670.010 VEL 2550, PRES = 34.1 1549 HOURS CHE 670.010 VEL 2550, PRES = 35.1 1549 HOURS CHE 670.010 VEL 2550, PRES = 35.1 1011 HOURS CHE 500.010 VEL 2550, PRES = 27.1 1011 HOURS CHE 500.010 VEL 2550, PRES = 35.1 1105 HOURS CHE 500.010 VEL 2550, PRES = 35.1 1105 HOURS CHE 500.010 VEL 2550, PRES = 35.1 1105 HOURS CHE 500.010 VEL 2550, PRES = 37.1 1105 HOURS CHE 500.010 VEL 2550, PRES = 37.1 1105 HOURS CHE 500.010 VEL 2550, PRES = 37.1 1110 HOURS CHE 500.010 VEL 2550, PRES = 37.1 1110 HOURS CHE 500.010 VEL 2550, PRES = 37.1 1110 HOURS CHE 500.010 VEL 2550, PRES = 37.1 1110 HOURS CHE 500.010 VEL 2550, PRES = 37.1 1110 HOURS CHE 500.010 VEL 2550, PRES = 37.1 1110 HOURS CHE 500.010 VEL 2550, PRES = 37.1 1110 HOURS CHE 654.010 VEL 25574, PRES = 37.1		HOURS		670.000	VEL				36.0					
1025 HOURS CHE 670,000 VEL 2555, PRES 31,00 D		HOURS		670.0 CO	٧. آ				32.8					
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### HOURS CHE 654.000 VEL 8 2407. PPES # 41.7 #### HOURS CHE 654.000 VEL 8 2435. PRES # 40.3 #### HOURS CHE 654.000 VEL 8 2435. PRES # 40.3 ####################################			654.000	M	2415		6 . B. 3	
13			654.00		7452	PPF	4.5	
### STANDERS CHR 654,000 VEL 2411, PPES 46.7 ### STANDERS CHR 654,000 VEL 2411, PPES 46.7 ### STANDERS CHR 654,000 VEL 2411, PPES 46.7 ### STANDERS CHR 656,000 VEL 1912, PRES 14.8 ### STANDERS CHR 650,000 VEL 1912, PRES 19.8 ### STANDERS CHR 700,000 VEL 1912, PRES 19.8 ### HOURS CHR 590,000 VEL 1952, PRES 24.2 ### HOURS CHR 590,000 VEL 1952, PRES 24.2 ### HOURS CHR 650,000 VEL 251, PRES 34.9 ### HOURS CHR 650,000 VEL 251, PRES 36.9 ### HOURS CHR 650,000 VEL 251, PRES 36.7 #### HOURS CHR 650,000 VEL 251, PRES 36.7						9 2 2 2		
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103 HOURS CHE 654.000 VEL 2 2473. PRES 2 42.2 J 3 20 PROL A 90 DEC. PR.) 49.0 116 HOURS CHE 500.000 VEL 2 1506. PRES 2 154.0 128 HOURS CHE 700.000 VEL 2 1506. PRES 2 15.0 J 3 19 PROL A 700.000 VEL 2 270. PRES 2 15.0 J 3 19 PROL A 700.000 VEL 2 270. PRES 2 15.0 J 3 19 PROL A 700.000 VEL 2 270. PRES 2 15.0 J 3 19 PROL A 700.000 VEL 2 270. PRES 2 15.0 J 3 21 PROL A 700.000 VEL 2 270. PRES 2 15.0 J 3 21 PROL A 700.000 VEL 2 270. PRES 2 15.0 J 3 21 PROL A 700.000 VEL 2 270. PRES 2 15.0 J 3 21 PROL A 700.000 VEL 2 270. PRES 2 15.0 J 3 21 PROL A 700.000 VEL 2 270. PRES 2 15.0 J 3 21 PROL A 700.000 VEL 2 270. PRES 2 15.0 J 42 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 42 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 42 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 44 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 45 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 46 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 46 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 46 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 46 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 46 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 46 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 46 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 46 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 46 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 46 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 46 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 46 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 47 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 47 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 47 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 47 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 47 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 47 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 47 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 47 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 47 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 47 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 47 HOURS CHE 650.000 VEL 2 270. PRES 2 15.0 J 47 HOURS CHE 670.000 VEL 2 270. PRES 2 15.0 J 47 HOURS CHE 670.000 VEL 2 270. PRES 2 15.0 J	1039		654.000	V ff. ≖	2411.	PPES	FO. W	
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336 HOURS CW= 700.000 VEL = 2270, PRES = 36.3 336 HOURS CW= 770.000 VEL = 2530, PRES = 55.4 336 HOURS CW= 770.000 VEL = 1351, PRES = 11.0 346 HOURS CW= 600.00 VEL = 1352, PRES = 24.2 415 HOURS CW= 600.00 VEL = 1952, PRES = 24.2 416 HOURS CW= 600.00 VEL = 1952, PRES = 24.2 417 HOURS CW= 600.00 VEL = 1952, PRES = 24.2 418 HOURS CW= 600.00 VEL = 2311, PRES = 34.9 418 HOURS CW= 600.00 VEL = 2261, PRES = 34.9 419 HOURS CW= 600.00 VEL = 2261, PRES = 34.9 410 HOURS CW= 600.00 VEL = 2261, PRES = 34.9 410 HOURS CW= 659.00 VEL = 2351, PRES = 36.9 410 HOURS CW= 659.00 VEL = 2350, PRES = 36.4 410 HOURS CW= 659.00 VEL = 2350, PRES = 36.4 410 HOURS CW= 659.00 VEL = 2351, PRES = 36.4 410 HOURS CW= 659.00 VEL = 2351, PRES = 37.1 410 HOURS CW= 659.00 VEL = 2351, PRES = 37.1 410 HOURS CW= 659.00 VEL = 2351, PRES = 37.1	1128		600.000		1912.		22.8	
336 MOURS CM= 770.000 VEL = 2530, PRES = 55.4 3 19 PROL AT PRUCE MARK 346 MOURS CM= 508.00 VEL = 1595.0 PRES = 16.1 415 MOURS CM= 508.00 VEL = 1595.0 PRES = 16.1 415 MOURS CM= 600.00 VEL = 1595.0 PRES = 24.2 415 MOURS CM= 600.00 VEL = 1595.0 PRES = 24.2 416 MOURS CM= 600.00 VEL = 2511.0 PRES = 25.6 417 MOURS CM= 600.00 VEL = 2512.0 PRES = 34.9 418 MOURS CM= 600.00 VEL = 2512.0 PRES = 34.9 419 MOURS CM= 600.00 VEL = 2512.0 PRES = 34.9 410 MOURS CM= 600.00 VEL = 2510.0 PREVIOUS 410 MOURS CM= 659.00 VEL = 2575.0 PRES = 36.9 411 MOURS CM= 659.00 VEL = 2575.0 PRES = 36.9 412 MOURS CM= 659.00 VEL = 2575.0 PRES = 36.4 413 MOURS CM= 659.00 VEL = 2551.0 PRES = 36.4 440 MOURS CM= 659.00 VEL = 2551.0 PRES = 36.4 440 MOURS CM= 659.00 VEL = 2551.0 PRES = 36.4 440 MOURS CM= 659.00 VEL = 2551.0 PRES = 37.1 441 MOURS CM= 659.00 VEL = 2551.0 PRES = 37.1	1308		700.000		2270.		36.4	
3 19 PROLATIONS CHE PROLES HATER 346 HOURS CHE 500.00 VEL 1351.0 PRES 14.1 346 HOURS CHE 500.00 VEL 1355.0 PRES 14.1 347 HOURS CHE 500.00 VEL 1355.0 PRES 14.1 347 HOURS CHE 500.00 VEL 1355.0 PRES 14.1 348 HOURS CHE 600.00 VEL 1357.0 PRES 15.0 349 HOURS CHE 600.00 VEL 1357.0 PRES 15.0 349 HOURS CHE 600.00 VEL 1357.0 348 HOURS CHE 600.00 VEL 1357.0 349 HOURS CHE 700.00 VEL 1561.0 PRES 15.0 349 HOURS CHE 700.00 VEL 1561.0 PRES 15.0 349 HOURS CHE 700.00 VEL 1575.0 PRES 15.0 349 HOURS CHE 659.00 VEL 1575.0 PRES 15.0 349 HOURS CHE 659.00 VEL 1575.0 PRES 15.0 349 HOURS CHE 659.00 VEL 1575.0 PRES 15.0 340 HOURS CHE 650	1336		770.000		2530.	PPES	4.4	
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415 HOURS CH= 788.000 VEL = 1952, PRES = 24.2 429 HOURS CH= 688.000 VEL = 2311, PRES = 36.6 424 HOURS CH= 688.000 VEL = 2311, PRES = 36.6 424 HOURS CH= 689.00 VEL = 1921, PRES = 22.8 424 HOURS CH= 689.00 VEL = 2616, PRES = 58.9 424 HOURS CH= 689.00 VEL = 2616, PRES = 58.9 424 HOURS CH= 689.00 VEL = 275.8 42 HOURS CH= 689.00 VEL = 275.8 43.9 44.00 SCH= 689.00 VEL = 275.8 45.1967 46.100 SCH= 689.00 VEL = 275.8 47.100 SCH= 689.00 VEL	1404		600.000		1606.	PRES	16.1	
42 HOURS CW= 800.00 VEL # 2311, PPES = 36.6 42 HOURS CW= 800.00 VEL # 2312, PPES = 36.6 442 HOURS CW= 600.00 VEL # 2261, PRES = 22.8 444 HOURS CW= 600.00 VEL # 2261, PRES = 34.9 539 HOURS CW= 600.00 VEL # 2261, PRES = 34.9 539 HOURS CW= 600.00 VEL # 2261, PRES = 34.9 FREVIOUS ROUNDS, 0 PREVIOUS ESR. 10 6462 PROL AT 90 DEG, PRUJA9-3 270.0 10 HOURS CW= 659.00 VEL # 2375, PRES = 32.2 12 1967 12 HOURS CW= 659.00 VEL # 2375, PRES = 32.4 13 HOURS CW= 659.00 VEL # 2370, PRES = 32.4 14 HOURS CW= 659.00 VEL # 2351, PRES = 32.4 14 HOURS CW= 659.00 VEL # 2351, PRES = 32.7	1415		7.80.000		1952.	PRES	24.2	
J 3 21 PROL AT 90 DEG, PR.J. 9-3 2700 J 3 21 PROL AT 90 DEG, PR.J. 9-3 2700 J 4 HOURS CM= 600.00 VEL = 1921. PRES = 52.6 J 5 HOURS CM= 600.00 VEL = 2616. PRES = 58.9 ZO, 1967 PLUG=	44.20					000	4	
J 3 21 PROL AT 90 DEG. PRJJS 922 2706 442 HOURS CH= 600.0 CO VEL = 1921, PRES = 22.6 452 HOURS CH= 600.0 CO VEL = 1921, PRES = 22.6 554 HOURS CH= 700.00 VEL = 2261, PRES = 34.9 559 HOURS CH= 600.0 O VEL = 2261, PRES = 34.9 60 442 PROL AT 90 DEG. PRJJS-3 2706 60 442 PROL AT 90 DEG. PRJJS-3 2706 61 4042 CH= 659.00 VEL = 2375, PRES = 32.4 62 4967 63 4042 CH= 659.00 VEL = 2354, PRES = 32.4 64 HOURS CH= 659.00 VEL = 2351, PRES = 32.4 659.00 VEL = 2351, PRES = 33.1					1			
442 HOURS CH= 600.00 VEL = 25.6 442 HOURS CH= 600.00 VEL = 252.8 454 HOURS CH= 600.00 VEL = 251.8 PRES = 34.9 539 HOURS CH= 600.00 VEL = 251.8 PRES = 34.9 539 HOURS CH= 600.00 VEL = 251.8 PRES = 34.9 50. 1967 60. 1968 = 31.1 60. 1968 60. 1968 = 31.1 60. 1968 60. 1968 = 31.1				1	100		MOL MIN	Z-CIEN BATHA
454 MOURS CM= 600.0 TO VEL = 1921, PRES = 22.8 454 MOURS CM= 700.000 VEL = 2261, PRES = 34.9 539 MOURS CM= 800.000 VEL = 2261, PRES = 34.9 539 MOURS CM= 800.000 VEL = 2261, PRES = 58.9 539 MOURS CM= 659.000 VEL = 275, PRES = 38.2 6 MOURS CM= 659.000 VEL = 2376, PRES = 38.4 5, 1967 6 A10 FROL AT 90 DEC, PROJS = 32.4 5, 1967 6 A10 FROL AT 90 DEC, PROJS = 32.4 5, 1967 6 MOURS CM= 659.000 VEL = 2350, PRES = 38.4 6 MOURS CM= 659.000 VEL = 2351, PRES = 37.1	7		14 9E	EG. PRJ	9-3	90.2		
454 MOURS CM= 700.000 VEL = 2261, PRES = 34.9 539 MOURS CM= 800.600 VEL = 2616, PRES = 58.9 PREVIOUS ROUNDS, 0 PREVIOUS ESR. 20, 1967 PLUG= MADE AGENT= PRIMER=15-PRES = 32.2 PREVIOUS ROUNCS, 0 PREVIOUS ESP. 9, 1967 PLUG= 440.E = 2375, PRES = 32.2 PREVIOUS ROUNCS CM= 659.000 VEL = 2370, PRES = 32.4 140.R			600.000	VEL	1921.		٠	
739 MOURS CM= 600.000 VEL = 2616. PRES = 58.9 PREVIOUS ROUNDS, 6 PREVIOUS ESR. 20, 1967 PLUG= MADE AGENT= PRIMERELS= 0 MOURS CM= 659.000 VEL = 2375. PRES = 32.2 9, 1967 PLUG= A10 PRUG= AGENT= PRIMERELS= 123 MOURS CM= 659.000 VEL = 2370. PRES = 32.4 146 MOURS CM= 659.000 VEL = 2370. PRES = 32.4 146 MOURS CM= 659.000 VEL = 2351. PRES = 37.1			700.000	VEL	2261.		0.4n	
PREVIOUS ROUNDS, B PREVIOUS ESR. 20, 1967 PD 8402 PROL AT 90 DEG, PR339-3 2706 0 404RS CM= 659,000 VEL 2775, PRES = 36.2 9, 1967 PC 8402 FROL AT 90 DEG, PR339-3 2700 PC 8402 FROL AT 90 DEG, PR349-3 2700 PC 8402 FROL AT 90 DEG, PR349-3 2700 PC 8402 FROL AT 90 DEG, PR349-3 2700 PREVIOUS CM= 659,000 VEL = 2350, PRES = 36.4 PREVIOUS CM= 659,000 VEL = 2351, PRES = 37.1	539		800.000	VEL	616		•	
20, 1967 PLUG* MAD* AGENT* PRIMER*15- PO 6162 PROL AT 90 DEG, PR3J#9-3 2706 HOURS CM* 659,000 VEL * 2375, PRES * 38,2 PREVIOUS ROUNES, 0 PREVIOJS ESP. 9, 1967 PL 6102 PROL AT 90 DEG, PR3J#9-3 2700 LZ3 HOURS CM* 659,000 VEL * 2358, PRES * 38,4 L66 HOURS CM* 659,000 VEL * 2351, PRES * 37,1 PREVIOUS CM* 659,000 VEL * 2351, PRES * 37,1	PRE	_	S.	PREVIOUS	ES			
PLUG* PLUG* PLUG* PRIMER*15- PREVIOUS COUNCS, 9, 1967 PREVIOUS ROUNCS, 9, 1967 PLUG* PRIMER*15- PLUG* PRIMER*15- P	20.	.5						
PLUGE PLUGE 0 6462 PROL AT 90 DEG, PRJ359-3 2706 0 400RS CW= 659.000 VEL = 2375, PRES = 38.2 9 4967 9 4967 PLUGE 0 PREVIOUS ESP. 9 4967 PLUGE 123 HOURS CW= 659.000 VEL = 2370, PRES = 38.4 146 HOURS CW= 659.000 VEL = 2370, PRES = 38.7 146 HOURS CW= 659.000 VEL = 2351, PRES = 37.1	•		:					!
0 8167 PROL AT 90 DES. PR3.89-3 Z708 0 MOURS CM= 659.00 VEL = 2375. PRES = 35.4 9. 1967 9. 1967 PLUG= 6425 PRES = 36.4 123 MOURS CM= 659.00 VEL = 2359. PRES = 36.4 146 MOURS CM= 659.00 VEL = 2351. PRES = 37.1	1		3014		#		AGENIA	PRIMERE15-2
0 MOURS CM= 659.000 VEL = 2375, PRES = 38.2 PREVIOUS ROUNES, 0 PREVIOUS ESP. 9, 1967 PLUG= 40.00 PREVIOUS = 4.00 PRES = 38.4 143 MOURS CM= 659.000 VEL = 2370, PPES = 38.7 146 MOURS CM= 659.000 VEL = 2351, PPES = 37.1			47 90	e e		2708		
9, 1967 PEVIOUS ROUNES, 0 PREVIDJS ESP. 9, 1967 PLUG= 440= 46= 46ENT= PRIMER=15= PE 6102 PROL AT 90 DE 0. PROJS-3 2700 123 HOURS CW= 659,000 VEL = 2370, PPES = 36.4 146 HOURS CW= 659,000 VEL = 2351, PPES = 37.1	MOURS		659.000	VEL =	2375	s		
9. 1967 PLUG= 440= 460= AGENT= PRIMER=15- PLUG= 6102 FROL AT 90 DE C. PRJ1=9-3 2700 REJAHOURS CM= 659.000 VEL = 2350, PRES = 38.4 LEG HOURS CM= 659.000 VEL = 23510, PRES = 38.7 BERTANK PANNON CM= 659.000 VEL = 2351. PRES = 37.1	340 PREVIOUS			PREVIO				
9, 1957 PLUG= 440= 460= AGENT= PRIMER=15= PL 6402 PROL AT 90 DEC. PRJ1=9=3 2700 ILZ HOURS CW= 659.000 VEL = 2350. PRES = 30.7 146 HOURS CW= 659.000 VEL = 2370. PRES = 31.1 PRES = 37.1 PRES = 37.1	•	•						
PC 6182 PROLES AND		_						
11.12 HOURS CH 659-00 VEL 2556, PRES E 1146 HOURS CH 659-00 VEL 2576, PRES E 1262 HOURS CH 659-00 VEL 2576, PRES E PRESTOURS CH 659-00 VEL 2551, PRES E	2		507d		9		AGENTE	PRIMER = 15-2
1123 HOURS CM: 659.000 VEL: 2358, PRES E 1146 HOURS CM: 659.000 VEL: 2370, PPES E 1282 MOURS CM: 659.000 VEL: 2351, PPES E PREVIOUS ADMINISTRA			06 L¥	C¥4.				
14-6 HOURS CM* 659-000 VEL = 2370, PRES = 1807 MOURS CM* 659-000 VEL = 2351, PRES = PRES = PRES = 1805-100 VEL	1123 MOURS		659.000		2358.	PRES	36.4	
1202 MOUNTS CM* 659-0 00 VEL # 2351. PRES #	1146 HOURS		659.000		2370	PPES	36.7	
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112 HOURS DEF 654.00 VEL 2545, PRES 141.4 1144 HOURS DEF 654.00 VEL 2545, PRES 141.5 115 TOURS COME 654.00 VEL 2545, PRES 141.6 115 FOL ST 1967 115 FOL ST 1967 116 FOL ST 1967 117 FOL ST 1967 117 FOL ST 1967 118 FOL ST 1967 119 FOL ST	HIC		AT 90	E G.)	104		
1.55 1.00			654.00	<u>ظ</u> کا	2424.		4.54	
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Second S	23.	196	P1.06=		# O #		A6627*	PR146R815-3
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STO 8102 PROL AT 90 DEC, PRJJA13-6 1908 30.9	335		659.000 S. 0	VEL F PPEVIOJS	2527. ESR.			
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OUTPUT FROM PROGRAM BANKO

GUN NUMBER 396 1 GUNS WERE CHOSEN BASED ON GUN 435 LIST OF GUN NUMBERS FOLLOWN 396

GUN NUMBER 396. 164 RECORDS REQUESTED.

O ESR.

7. 1945 0 PREVIOUS ROUNCS OR.

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90 DEGREES.
2491. F/S. PRESSURE:
2494. F/S. PRESSURE:
2492. F/S. PRESSURE:
2492. F/S. PRESSURE: AGENT & 90 DEGREES. 2522. F/S. PRESSURE! PLUG: PROPELLANT: IMIC 16455 CONCITIOVED AT B & GMARGE: 499.7128 LBS. VELOCITY: CASE: PROPELLANT I HIG 16414 CONCITIONED AT TIME: 8 CHARGE: 669-1387 L85. VELOCITY: PREPELLANT: THIC 2 CONCITIONES AT 8 0 CHARGE! 669.6560 LBS. VE.DCITY: 8 0 CHARGE! 669.6560 LBS. VELOCITY: CASE:
 PROPELLANT: IHIC 15 CONCITIONED AT TIPE: 0 CHARGE: 641.0240 LBS. VELOCITY: PROPELLANT: IMIC 14 CONCITIONED AT
B CHARGE: 664,0320 LBS. VELOCITY:
C CHARGE: 769,9733 LBS. VELOCITY:
C CHARGE: 654,6773 LBS. VELOCITY:
CHARGE: 654,6773 LBS. VELOCITY: PLUG GAGE READINGS! ANBIENT TEMPERATURE WAS TINE TINE : 11 ME 1 11 ME 1 11 ME 1 CASEI CASE CASEI

	5	CHARGE IN CHARGE	0G: 11C 641.0249 641.0249 641.0240 641.0240	CONCI.	PRUC: MA3: PRUC: 15 CONCITIONED AT G CHARGE: 641.0248 LBS. VE.OCITY: 0 CHARGE: 641.0248 LBS. VELOCITY: 0 CHARGE: 641.0248 LBS. VELOCITY: 0 CHARGE: 641.0248 LBS. VELOCITY:	AGENT: 3 DEGREES. 2345. F/S. PRESSURE: 2345. F/S. PRESSURE: 2345. F/S. PRESSURE: 2345. F/S. PRESSURE:	ressure Ressure Ressure	PRATER UNTER CONTROL OF STREET OF ST	#4 1 19 #4	Projectile 9-1	ī.	•
76 17. 36 PRE. 7. UC CACE	17, 1954 PREVIOUS IAGE READ IT TEMPER	FEB 17, 1954 16 PREVIOUS ROUNDS OR NUC GAGE READINGS! NAMEEN TEMPERATURE MAS	IDS OR.	e ESA.	œ.							
CASE 1111 1111 1111 1111 1111 1111 1111 1		PACPECTANT INC. OCHANGES A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	LG: 34 475-136 475-136 475-136 664-917 664-917	CONCIT CO	MAD: MEDGED AT VELOCITY: VELOCITY: VELOCITY: VELOCITY: VELOCITY: VELOCITY: VELOCITY: VELOCITY:	AGE 1835 F/S. 1836 F/S. 1876 F/S. 1866 F/S. 2478 F/S. 2434 F/S. 2434 F/S.	PRESSURES PRESSURES PRESSURES PRESSURES PRESSURES PRESSURES PRESSURES PRESSURES	22.6 KPSI. 22.6 KPSI. 22.8 KPSI. 23.1 KPSI. 23.1 KPSI. 24.9 KPSI. 46.6 KPSI. 46.7 KPSI.	15-2	PROJECTILE: IMIC	18 141 17	
CASE: PROP TIFE: TIFE: TIFE: TARE ARCH 6. Z7 PRE PLUG GAGE	OPELLAN O CH O CH O CH O CH O CH O CH O CH O CH	CASE: PROPELLANT! IHIC TIPE: CHARGE: 6: TIPE: TIP	LG 16616 653.996.7 653.996.7 653.996.7 1 653.996.7	CONCITI LBS. V LBS. V LBS. V	PLUG: WAD: OCHARGE: 653.9947 LBS. VELOCITY O CHARGE: 653.9947 LBS. VELOCITY OCHARGE: 653.9947	AGE 90 DEGREES, 2474, F/S. 2475, F/S. 2470, F/S.	PRESSURET	PRIMER. 46.5 KPSI. 46.8 KPSI. 46.8 KPSI.	2-5	PROJECTILE: IMIC	8 8 1 K	.
CASE 1176 1176 1176 1176 1176 1176 1176 117	1100000000 8	PRCPELLANT: IHIC OCHARGE: 47 OCHARGE: 47 OCHARGE: 47 OCHARGE: 47 OCHARGE: 66 OCHARGE: 66 OCHARGE: 66 OCHARGE: 66 OCHARGE: 66 OCHARGE: 66 OCHARGE: 66 OCHARGE: 66	11C 35 475,136 1 475,136 1 475,136 1 475,136 1 660,1397 1 660,1397 1 660,1397 1 660,1397 1 660,1397	CONFE FERSON FER	LLANT: IHIG 35 CONCITIONED AT CHARGE: 475,136 (PES. VE_COTTY: 1 C CHARGE: 660,1367 (PES. VE_COTTY: 1 C C C C C C C C C C C C C C C C C C	AGEN BE DEGREES. BOBOD. F/S. 1916. F/S. 1917. F/S. 1977. F/S. 1977. F/S. 1977. F/S. 1977. F/S. 1977. F/S.	TESTAL STATE OF THE STATE OF TH	PAIMER- 23.7 KPSI. 22.8 KPSI. 22.3 KPSI. 45.7 KPSI. 45.7 KPSI. 45.7 KPSI. 45.7 KPSI.	2-2	PROJECT ILE :	E: 18-1	2700
CASE: 1786: 1717	70000	PRCPELLANT: IHICO O CHARGE: 6: 0 CHARGE: 6:	PLUG: 14 IHIC 14 E: 653.9947 E: 653.9647 E: 653.9647 E: 653.9647	CONDI- LBS. LBS. LBS.	PLUGF 14 CONDITIONED AT CMARGE 653.9947 LBS. VE_OCTIVE	AGENT: 91 DEGREES. 2502. F/S. PRESSURE: 2405. F/S. PRESSURE: 2401. F/S. PRESSURE: 2401. F/S. PRESSURE: 2401. F/S. PRESSURE:	T # PRESSURE! PRESSURE! PRESSURE! PRESSURE!	PRIMER: 46.2 KPSI. 46.8 KPSI. 46.9 KPSI.	15-2	PROJECTILE: 18-1	LE	27.88

CASE	1	3	PLUGI			20 74		AGENT 1	MT :	•	PRIMFR: 15-2	15-2	•	PROJECTILE: 9-1	E1 9-1	2760	2
TINE	¥.	PRIFELLANIS IMIC B CMARGES 61	. 684.	7417	LBS	LLANIS IMIC 30 CONCITIONED AT B CMARGES 684,7147 LBS. VE.OCITYS	90 DE 2469.	90 DEGREES. 2469. F/S.	90 DEGREES. 2469. F/S. PRESSURE	47.3 KPSI	KPSI.						
CASE	19000	PLUS ANT & THIC	PLUG	4	1110	MAD COUNTY TO COMPANY	2	AGENT S	NTs	•	PRIMER: 15-2	15-2	•	PROJECTILE: 9-1	Er 9-1	2708	5
TIMES		CHARGE	1 653	7 466	LBS	CHARGE: 653.9947 LBS. VELOCITY:	2479	WREES. F/S.	SU UTUKES. 2479. F/S. PRESSIBES	46.2	KPST						
TIPE	•	CHARGE	CHARGE 1 653.9947	1466	LBS.	LBS. VELOCITY!	24.86	F/S.	2486. F/S. PRESSURE	46.0	KPSI						
TINE	٥	CHARG	653,	7 466	1.83	CMARGE: 653,9947 LBS. VELOCITY:	2486.	F/S.	2466. F/S. PRESSURES	16.0	KPSI.						
CASE		-	Pt us t			MON		AGENT :	MT.	•	PRIMER 15-2	15-2	•	PROJECTILE: 9-1	£1 9-1	2780	
		PRCPELLANTS IMIC	ANT SIMIC SE CONTRE	36 (CONCLE	36 CONCITIONED AT	30 06	90 DEGREES.									
TIME		CHARGE	6.00	669.5550		VE. OCT TV:	• 2252	3	2522. F/S. PRESSURET		KPSI.						
TIME		CHARGE		669.6960		VELOCITY:	2456	£75.	F/S. PRESSURE		KPST						
TIPE	•	CHARGE				VE. OCT TV :	24.73.	F/S.	F/S. PRESSURE!	16.1	KPSI.						
	9 6			475.1360		VELOCITY :	1637.	F/5.	F/S. PRESSUREI	21.2	KPSI.						
711	-	CHANGE		475.1360	185.	VE. 3CITY :	1833	1833. F/S. 1837. F/S.	F/S. PRESSURET	20.2	KPSI.						
38.6	5. 1954	ž															
2	PREVI	53 PREVIOUS ROUNDS DE,	NO SOM		D ESP.												
A FB IE	GAGE R	FLUG GAGE READINGS! AMBIENT TEMPERATURE MAS	SI WAS	NO.													
CASE		•	PL 1.6 e			S C VA		AGENT 1	κ. •	•	PRIMFR: 15-2	2-51	•	PRCJECTILE 1 9-1	E1 9-1	2700	
	PRCPEL	PRCPELLANT: IHIC	HIC	37 (CONCIT	37 CONCITIONED AT	91 06	91 DEGREES.									
TIPES	0	CHARGE	124 13	.1 360	LBS .	CHARGE: 475.1360 LBS. VE.OCITY:	1036.	F/S.	1836. F/S. PRESSURE	22.0							
TIRE	•	CHARGE			res.	LES. VE.OCITY!	1850	5	F/S. PRESSURE	21.5	KPSI.						
114	> e	CHARGE		475.1360		LBS. VE.OCLITI	1040		1040 1/3 PARCOURT	21.5	KPSI.						
TIME		CHARGE		664.9173	1.85	LBS. VELOCITY!	2436	£/5.	F/S. PRESSUREI	6.0							
TIPE	•	CHAFGE		664.9173	1.85	VELOCITY:	2457.		F/S. PRESSURES	13.5							
TIPES	٥	CHARGE		664.9173	1.85	VELDETTY	5459		F/S. POESSURES	\$3.B	KPSI.						
TIPES	•	CHARGE		664.9173	18 5	VE. OCITY 8	- 5592		F/S. FAFSSURET		KPSI.						
TIPES	~ (CHARGE				VE. OCITY !	2439				KP51.						
13411	-	CHARGE		E84.7147	res.	VELOCIIVE	* C * C		PRESSURER	9.	KPSI.						
CASE		•	PLUG			1011		AGENT .	NT e	•	PRIMER: 15-2	15-2	•	PROJECTILE: 9-1	E1 9-1	2700	
	PROPEL	PROPELLANT: IHIC	HIC	1,0	ONCIT	14 CONCITIONED AT	90 T6	91 DEGREES.									
TIPE	<u> </u>	CHARGE	1 653	7 4967	. 682	CHARGE! 653.9947 LBS. VELDCITY!		5,5	D. F/S. DRESSURE	2							
TAPE	> =	204410	CHARGE B55.5947	- 27.5°	185.	CHARGES BSS.4947 LBS. VE.UCITTE CHARGES FER.9947 LBS. VE.OCITYE	2663	£/5.	2443. F/S. PEFINERE	0 M	KPSI.						
TIME		CHARGE	1 653	0947	- 65	LES VELOCITY	2451	F/S	2451. F/S. PRESSURE	6.5	KPSI						
TIPE	•	CHARGE	1 653	486	1 BS.	CHARGE: 653.9947 LBS. VE. OCITY:	2448.	F/5.	2448. F/S. PRESSURER	46.2	KPSI.						

PLUG GAGE READINGS! AND ANDIENT TEMPERATURE WAS 80

APRIL 22. 1954 42 PREVIOUS ROUNDS OR.

A B IE	PLUG GAGE READINGS! AMBIENT TEMPERATURE HAS	AND AND	•							
CASE TIME TIPES TIPES	PRCPELL 0 0	14 13 13 13 13 13 13 13 13 13 13 13 13 13	CONCIT LBS. LBS. LBS. LBS.	MAD: 14 CONCITIONED AT 1947 LBS. VELOCITY: 1947 LBS. VELOCITY: 1947 LBS. VELOCITY:	AGENT: 91 DEGREES. 2461, F/S, PRESSURE: 2463, F/S, PRESSURE: 2470, F/S, PRESSURE:	PRIFER 15-2 45.7 KPSI. 46.0 KPSI. 46.0 KPSI.	15-2	PRCJECTILE: 9-1	;	2700
7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	72 CP E L C C P E L C C P C C P C C C C C C C C C C C C C	9000	MAD: 38 CONCITIONED 350 LBS. VELOC 350 LBS. VELOC 350 LBS. VELOC 350 LBS. VELOC 350 LBS. VELOC 350 LBS. VELOC	MAD: TIONED AT VELOCITY: VELOCITY: VELOCITY: VELOCITY: VELOCITY: VELOCITY:	AGENT: 247. F/S. PRESSURE: 240. F/S. PRESSURE: 247. F/S. PRESSURE: 2529. F/S. PRESSURE: 1817. F/S. PRESSURE: 1815. F/S. PRESSURE:	PRIMERS. 644.6.0 KPSI. 644.6.0 KPSI. 620.2 KPSI. 700.7 KPSI. 700.7 KPSI. 700.7 KPSI. 700.7 KPSI. 700.7 KPSI.	15-2	PROJECTILE: 9-1		2 7 6
JULY 79 PLUG G	JULY 28, 1954 79 PREVIOUS ROUNCS OR, PLUG GAGE READINGS! ANBIENT TEMPERATURE WAS	CS OR. AND WAS BZ	0 ESR.	.•						
CASE	PRCPE	UG: D 4549 C 653.3120	ONCIT LBS.	PLUG: LLANT: SPO 4549 CONCITIONED AT 0 CHARGE: 653,3120 LBS. VELOCITY:	AGENT 1 91 DEGREES. 2674. F/S. PRESSURE!	PRIMER: 15-2 54.1 KPSI.	15-2	PRGJECTILE: 13-6	13-6	1980
CASE: 21 11 12 13 14 15 15 15 15 15 15 15	PRCPELLANT: SPC CONSTGEN CONST	1021 18293 CONUTI (669-6560 LBS: (669-6560 LBS:	LIBES CLEBS	MADS 1004EB AT VE_OCITYS	AGENT: 2624, F/S, PRESSURE: 2634, F/S, PRESSURE: 2634, F/S, PRESSURE: 2634, F/S, PRESSURE: 2636, F/S, PRESSURE: 2628, F/S, PRESSURE: 2628, F/S, PRESSURE: 2638, F/S, PRESSURE: 26		15-2	PROJECTILE 13-6	9 -	8 6 1

JULY 15, 1954 68 PREVIOUS ROUNES OR, 0 ESR.

PLUG GAGE READINGS! Ambient temperature	READINGS 1 HPERATURE	AND MAS 71									
CASE: PRCPE! 1178E: 117E: 117E	PRCPELLANT: SPCG G CHARGE: 32 G CHARGE: 32 G CHARGE: 32 G CHARGE: 32	PLUG: MAD: MAD: CHARGE: 329-7200 LBS, VELOCITY: CHARGE: 329-7200 LBS, VELOCITY: CHARGE: 329-7200 LBS, VELOCITY: CHARGE: 320-7200 LBS, VELOCITY:	LES. VLES. V		AGERES. 2076. F/S. 2057. F/S. 2054. F/S. 2056. F/S.	AGENTI 90 DEGREES. 2076, F/S. PRESSUREI 2077, F/S. PRESSUREI 2058, F/S. PRESSUREI 2058, F/S. PRESSUREI	31.7 KPSI. 31.2 KPSI. 30.6 KPSI. 30.6 KPSI.	2-51	PROJECTILE® 13-2	2-51	
CASE PROPELL 11ME PROPELL 17ME PROPELL 1 PROPEL 1 P		110 110 110 110 110 110 110 110 110 110	COMCITIONED 1085, VELOC 7 L85, VELOC 7 L85, VELOC 7 L85, VELOC 105, VELOC 105, VELOC	HADDI 11 CONCITIONED AT 12 15.0 17.7 LBS. VELOCITY: 13 15.0 17.7 LBS. VELOCITY: 13 15.0 72.0 LBS. VELOCITY: 13 15.72.0 LBS. VELOCITY: 13 15.72.0 LBS. VELOCITY:	AGERES. 2030. F/S. P. 2043. F/S. P. 2043. F/S. P. 2041. F/S. P. 2101. F/S. P. 2101. F/S. P.	ACENT * 90 DEGREES. 2043. F/S. PRESSURE: 2043. F/S. PRESSURE: 2044. F/S. PRESSURE: 2101. F/S. PRESSURE: 2101. F/S. PRESSURE: 2101. F/S. PRESSURE:	PRIMERS 35.5 KPSI. 31.7 KPSI. 31.7 KPSI. 32.3 KPSI. 35.5 KPSI. 35.9 KPSI. 34.9 KPSI.	5-2	PROJECTILE:	2-8	
AUG 12. :	12, 1954 PREVIOUS ROUNDS	S 08,	O ESR.								
PLUG GAGE READINGS! ANDIENT TEMPERATURE	READINGS!	HAS 75									
CASE 111461 111461 111461 111461 111461 111461 111461 111461	PROPELLANY: IMIC: 39 CONCITT 0 CHARGE: 475-1360 L0S. V 0 CHARGE: 475-1360 L0S. V 0 CHARGE: 475-1360 L0S. V 0 CHARGE: 475-9360 L0S. V 0 CHARGE: 679-9360 L0S. V	39 39 39 39 39 39 39 39 39 39 39 39 39 3	CONTITUDED (CONTITUDED (CONT	MAD: COUST AT COUST AT COUST AT COUST AT COUST AT COUST AT COUST AT COUST AT	A C C C C C C C C C C C C C C C C C C C	AGENT: 1753. F/S. PRESSURE: 1783. F/S. PRESSURE: 1781. F/S. PRESSURE: 1781. F/S. PRESSURE: 2456. F/S. PRESSURE: 2467. F/S. PRESSURE: 2467. F/S. PRESSURE: 2467. F/S. PRESSURE: 2467. F/S. PRESSURE:	### ##################################	15-2	PROJECTILE I	5	24
CASE PACPE TIME TIME TIME	PLUGI CPELLANT: IMIC O CHARGE: E: O CHARGE: 6: O CHARGE: 6: O CHARGE: 6: O CHARGE: 6:		LBS. LBS. LBS. LBS. LBS.	MAD: 14 CONCIIDNED AT 1947 LBS. VELOCITY: 1947 LBS. VELOCITY: 1947 LBS. VELOCITY:	AG 2437. FKS 2447. F/S 2446. F/S 2434. F/S 2428. F/S	AGENT! 90 DEGREES. 2437. F/S. PRESSURE! 2440. F/S. PRESSURE! 2426. F/S. PRESSURE! 2434. F/S. PRESSURE! 2434. F/S. PRESSURE!	PRIMER: 44.6 KPSI. 44.4 KPSI. 44.1 KPSI. 43.5 KPSI.	2-51	PROJECT ILE :	-	2708
SEPT 30, 1954 126 PREVIOUS ROUNI PLUG GAGE READINGST ANGIENT TEMPERATURE	30, 1954 PREVIOUS ROUNDS MAGE READINGS!	DS OFF. AND WAS &B	e esp.	•							
Case: Profe Tive:	PRCPELLANT: SPD 0 CHARGE: 65:		CONCIT LBS.	MAD: MS49 COMCITIONED AT 1.3120 LBS. VE.OCITY:	AG 90 DEGREE 2599. F/S	AGENT: 90 DEGREES. 2599, F/S, PRESSURE:	PRIMERS 32,5 KPSI.	15-2	PROJECTILE	13-6	:

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9	13-6	£ .	13-6	18-0	9 1 1
PRCJECTILE 13-6	PROJECTILE	PROJECT ILE 1	PRO JECT TLE 1	PROJECTILES	PRCJECT ILE 1
14-2	15-2	# 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	15-2	15-2	≥
WWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW	PRIMERS 32.0 KPSI.	MACOUNTERS	PRIMER! 31.2 KPSI.	PRIMER: 68.3 KPSI. 61.7 KPSI. 38.7 KPSI.	PRIMERSONS AND MACHINE
AGENT: 90 DEGREES. 2600. F/S. PRESSURE: 2615. F/S. PRESSURE: 2615. F/S. PRESSURE: 2616. F/S. PRESSURE: 2616. F/S. PRESSURE: 2606. F/S. PRESSURE: 2606. F/S. PRESSURE:	AGENT: 90 DEGREES. 2583. F/S. PRESSURE:	AGENT: 290 DEGREES. 2594. F/S. PRESSURE: 5000. F/S. PRESSURE: 5001. F/S. PRESSURE: 6601. F/S. PRESSURE: 6603. F/S. PRESSURE: 6609. F/S. PRESSURE: 6609. F/S. PRESSURE: 6585. F/S. PRESSURE:	AGENT! 80 DEGREES. 2567. F/S. PRESSURE!	AGENTI 89 DEGRES. 2427. F/S. PRESSUREI 2429. F/S. PRESSUREI 2427. F/S. PRESSUREI	AGENT: 89 DEGREES. 2616. F/S. PRESSURE: 2624. F/S. PRESSURE: 2635. F/S. PRESSURE: 2631. F/S. PRESSURE: 2635. F/S. PRESSURE: 2635. F/S. PRESSURE: 2627. F/S. PRESSURE:
MAD: CMGITIONED AT LBS. VELDEITY: LBS. VELDEITY: LBS. VELDEITY: LBS. VELDEITY: LBS. VELDEITY: LBS. VELDEITY:	MAD: 4549 CONCITIONED AT *3120 LBS. VELOCITY:	M401 85. VELOCITY 85. VELOCITY 85. VELOCITY 85. VELOCITY 85. VELOCITY 85. VELOCITY 85. VELOCITY 85. VELOCITY 85. VELOCITY	MAD: Noitioved at 85. Velocity;	MAD: NCITIONED AT BS. VE.OCITY: BS. VELOCITY:	MAD: LBS. WE_DGITY:
## OF THE PLG: W# D: W# D: ##	PLUG: WLD: PRCPELLANT: SPG 4549 CONCITIONED AT 0 CHARGE: 653.3120 LBS. VELOCITY	69.6 669.6 669.6 669.6 669.6 669.6 669.6 669.6	PLUG GAGE READINGS: AMBIENT TEMPERATURE WAS 54 GASE: PROPELLANT: INIC 14 CONDITIONED BT TIPE: 0 CHARGE: 653,9947 LBS. VELDGITY	PLUG: MAD: PROPELLANT: SPC. 10293 CONCITIONED AT 0 CHARET 669.656.0 LBS. VE.OCITY: 0 CHARGE: 669.6960 LBS. VE.OCITY: 0 CHARGE: 669.6560 LBS. VE.OCITY:	PLUG: IANT: INIC DENTRIES 3447 CIARGE: 653,9947 CIARGE: 653,9947 CIARGE: 653,9947 CIARGE: 653,9947 CIARGE: 653,9947 CIARGE: 653,9947
CASE: PROTECTIVE: TIME:	CASE 1 FRG	CASE: PRCPELLAN TIPE:	PLUG GAGE AMBIENT T CASE: PRCP TIPE:	CASE: PROP TIME: TIME:	CASE 8 11 ME

DEC 16, 1954 191 POCYIOUS BOUNES OR, B ESR,						
PLUG GAGE READINGS! AND AND AND SENT TEMPERATURE WAS 40						
CASE: PREPELLANT: SPD 4549 CONDITIONED AT TIME: 6 CHARGE: 653,3170 LBS. VELOCITY	D AT	AGENT! 90 DEGREES, 2576, F/S, PRESSURE!	PRINER!	15-2	PROJECTILE! 1	13-2 19881
CASE: PROPELLANT: SPO 18253 CONCITIONED TIME: 8 CHARGE: 669.656 LBS. VE.OC:	44444	AGENT: 90 DECREES. 2597. F/S. PRESSURE: 2585. F/S. PRESSURE: 2586. F/S. PRESSURE: 2576. F/S. PRESSURE: 2576. F/S. PRESSURE:	PRIMERS 32.0 KPSI. 32.0 KPSI. 31.7 KPSI. 32.5 KPSI.	15-2	Projectile: 3	* 6 × 6 × 6 × 6 × 6 × 6 × 6 × 6 × 6 × 6
MPRIL 20, 1955 197 PREVIOUS ROUNDS OR, 0 ESR.						
PLUG GAGE READINGS: AND AMBIENT TEMPERATURE WAS 59						
CASE: PROPELLANT: IMIC 14 COMUTTIONED AT TIME: 0 CHANGE: 653-9947 LBS. VELOCITY	AT CLIY:	AGENT: 90 DEGREES. 2430. F/S. PRESSURE:	PRIMER. 42.2 KPSI.	15-2	PROJECT ILE &	9-1 19-0
CASE: PROPELLANT: INIC 14 CONDITIONED AT TIME: 8 CHARGE: 653,9947 185, VELDEITY TIME: 8 CHARGE: 653,9947 185, VELDEITY TIME: 8 CHARGE: 653,4947 185, VELDEITY		AGENT O S417. F/S, PRESSURET 2416. F/S, PRESSURET 2416. F/S, PRESSURET	PRIMERS 62.2 KPSI. 62.2 KPSI.	2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -	PROJECTILE: 3	3-6 198
8						
CASE: PLUG: 14 CONCITIONES AT THE FROMELLANT: INIC 14 CONCITIONES AT TIME: 0 CHARCE: 653,9947 LBS. VELOCITY TIME: 0 CHARCE: 653,9947 LBS. VELOCITY TIME: 0 CHARCE: 653,9947 LBS. VELOCITY TIME: 0 CHARGE: 653,9947 LBS. VELOCITY:		41 DEGREES. 2426. F/S. PRESSURE: 2421. F/S. PRESSURE: 2415. F/S. PRESSURE: 2422. F/S. PRESSURE:	P&IMER 1 42.5 KPSI. 64.1 KPSI. 63.3 KPSI. 61.7 KPSI.	15-1	PROJECT ILE :	273
AUG 8, 1955 285 PREVIOUS ROUNDS OR, D FSR. FLUG GAGE READINGS! AND APBIENT TEMPERATURE WAS 75						
CASE: PROPELLANT: IHIC 14 CONDITIONED AT TIME: GHARGE: 653,9947 LBS. WEDCITY: IIPE: D CHARGE: 653,9947 LBS. WEDCITY: TIME: D CHARGE: 653,9947 LBS. WEDCITY: TIME: D CHARGE: 653,9947 LBS. WEDCITY:		AGENT! 90 DEGREES. 2424. F/S. PRESSURE! 2439. F/S. PRESSURE! 2439. F/S. PRESSURE! 2439. F/S. PRESSURE!	PRIMERS 42.5 KPSI. 44.4 KPSI. 44.4 KPSI.	15-1	PROJECTILE: 9-	9-1 278

	2 4 9 9	8622	9042	2 7 0 0
	PROJECTILE: 9-1	PRCJECTILE: 9-1	PRCJECTICE 4-1	PROJECTILE: 9-1
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	7	7	7	7
	∯ ₩	1 15-1	\$ *	151
	## 15-1 ##	PRINER PR	## 15-11 ## 15-11	RESINERS KPSI. KPSI. KPSI. KPSI.
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	AGENT: 1789. F/S. PRESSURE: 1789. F/S. PRESSURE: 1789. F/S. PRESSURE: 2399. F/S. PRESSURE: 2399. F/S. PRESSURE: 2393. F/S. PRESSURE: 2393. F/S. PRESSURE: 2394. F/S. PRESSURE: 2394. F/S. PRESSURE:	98 DEGREES. 2413. F/S. PRESSURE: 2406. F/S. PRESSURE: 2409. F/S. PRESSURE: 2409. F/S. PRESSURE: 2402. F/S. PRESSURE:	4GENT: 90 DEGRES. 176. F/S. PRESSURE: 176. F/S. PRESSURE: 1774. F/S. PRESSURE: 2403. F/S. PRESSURE: 2413. F/S. PRESSURE:	AGENT: 2409. F/S. PRESSURE: 2407. F/S. PRESSURE: 2401. F/S. PRESSURE: 2412. F/S. PRESSURE: 2406. F/S. PRESSURE:
		AGENT - CES. PRE /S. PRE /S. PRE /S. PRE /S. PRE /S. PRE		ASERT - S.S. PRE / S.
	00000000000000000000000000000000000000	A 98	7 7 7 7 7 7 7 7 8 8 8 8 8 8 8 8 8 8 8 8	AEES 7/5. 7/5. 7/5. 7/5.
	TARREST LANGUAGE CONTRACTOR AND	AGEN 2405. F/S. 2405. F/S. 2409. F/S. 2402. F/S. 2402. F/S.	90 DEGRES. 1776. F/S. 1776. F/S. 1778. F/S. 2782. F/S. 2813. F/S. 2813. F/S.	AGENESS. 2409. F/S. 2409. F/S. 2401. F/S. 2412. F/S. 2412. F/S.
	MADS WELDOLTYS WELDOLTYS WELDOLTYS WELDOLTYS WELDOLTYS WELDOLTYS WELDOLTYS WELDOLTYS WELDOLTYS	14 CONCITIONED AT 1947 LES. WELOCITY 1947 LES. WELOCITY 1947 LES. WELOCITY 1947 LES. WELOCITY 1947 LES. WELOCITY 1947 LES. WELOCITY	MAD: VELOCITY: VELOCITY: VELOCITY: VELOCITY: VELOCITY: VELOCITY: VELOCITY: VELOCITY: VELOCITY: VELOCITY: VELOCITY:	MADI TOVED AT VELOCITY VELOCITY VELOCITY
6 ESR.		ES VEL	4	
	MAD: MAD: MAD: MAD: MAD: MAD: MAD: MAD:	CONCILES.	AND 41 COMETITOMED 350 LBS. VELOC 360 LBS. VELOC	MAD1 14 CONCITIONED 1947 LBS. VE.DG: 1947 LBS. VE.DG: 1947 LBS. VE.DG:
OR. AND 15 70	16. 175. 400 175. 1260 175. 1360 175. 13	10 14 (61 14 (653.9947 653.9947 653.9947 653.9947 653.9947 653.9947 653.9947		161 14 163.9947 1653.9947 1653.9947 1653.9947
10S 0		PLLG1 IMIC IMIC EE1 653 EE1 653 UNDS O	25.8 21.2	
PREVIOUS ROUNDS FACE READINGS: AT TEMPERATURE MA	PLUG: AQ CONCITIONED AT CONCITIONED AT Q CHARGE: A75.1360 LBS. VELOCITY: G CHARGE: A75.1360 LBS. VELOCITY: G CHARGE: A75.1360 LBS. VELOCITY: G CHARGE: A75.1360 LBS. VELOCITY: D CHARGE: 664.977 LBS. VELOCITY: D CHARGE: 664.977 LBS. VELOCITY: G CHARGE: 664.977 LBS. VELOCITY: G CHARGE: 664.977 LBS. VELOCITY: G CHARGE: 664.917 LBS. VELOCITY: G CHARGE: 664.917 LBS. VELOCITY: G CHARGE: 664.917 LBS. VELOCITY: C C C C C C C C C C C C C C C C C C C	PRCPELLANT: INTC	FROPELLANT: AND PROPELLANT: PROPELLANT: THIC ALL CONCTION CHARGE: 475.1360 LBS. CHARGE: 475.1360 LBS. CHARGE: 475.1360 LBS. CHARGE: 475.1360 LBS. CHARGE: 659.6560 LBS. CHARGE: 669.6560 LBS.	PROPELLANT: IMIC 14 CONCITO OCHER 1 1 CONCITO O CHARGE: 653.9947 LBS. 0 CHARGE: 653.9947 LBS. 0 CHARGE: 653.9947 LBS. 0 CHARGE: 653.9947 LBS.
1955 TOUS MEAD		CHIAN CHIAN CONTRACTOR	An 4000000000000000000000000000000000000	200000
13, 1955 PREVIOUS GAGE READ	8. 8.	PRCPELL AND D CH 0 C	7 46 7 4 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ROPE
SEPT 13, 1999 209 PREVIOUS ROUNDS O PLUG GAGE READINGS! APDIENT TEMPERATURE MAS		CASE: 7176:	AMBLE NT TEMPERATURE WAS CASES PROPELLANTS INIC TIMES D CHARGES 475 TIMES D CHARGES 659 TIMES D CHARGES 65	6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
N E4	4444444 D	8 4444 0	44444444 D > 3	4444 6

PLIG GAGE AND LENT TE	PLLG GAGE READINGS! Anbient Temperature was	AND WAS 64							
GASE! PRCPE TIME: TIME:	PRCPELLANT: INIC 0 CNARCE: 65 6 CHARGE: 65 0 CMARGE: 65	PLUG: 14 CON[] CHARCE: 653.9947 LRS. CHARGE: 653.9967 LBS. CHARGE: 653.9967 LBS.	LAS. V	PLUG: 14 CONTITIONED AT CHARGE: 653.9947 LRS. VELOCITY: CHARGE: 653.9947 LBS. VELOCITY: CMARGE: 653.9947 LBS. VELOCITY:	AGENT: 90 DEGREES. 2416. F/S. PRESSUPE: 2417. F/S. PRESSURE: 2408. F/S. PRESSURE:	PRIMER: 15-2 1 42.5 KPSI. 1 40.3 KPSI.	15-2	PROJECTILE: 9-1	24
NOV 22, 242 PREV PLUG GAGE AMBIENT TE	NOV 22, 1955 242 PREVIOUS ROUNDS DR: PLUG GAGE READINGS: AMBIENT TEMPERATURE WAS	S OR. AND HAS 48	esr.						
CASE 11116 11116 11116 11116 11116 11116 116 116	PROPELLANT PRUCES PRUCES		CONCITANDO CONCITANDO CONCITANDO COS. VELOCI COS. VELOCI COS. VELOCI 7 LBS. VELOCI 7 LBS. VELOCI 7 LBS. VELOCI 7 LBS. VELOCI 7 LBS. VELOCI 7 LBS. VELOCI	++++++++++	AGENT: B9 DEGRES. 1784. F/S. PRESSURE: 1795. F/S. PRESSURE: 1796. F/S. PRESSURE: 2390. F/S. PRESSURE: 2401. F/S. PRESSURE: 2468. F/S. PRESSURE:	20.4 KPSI. 20.2 KPSI. 20.2 KPSI. 20.2 KPSI. 20.2 KPSI. 20.5 KPSI. 40.9 KPSI. 40.9 KPSI. 40.1 KPSI.	₹-54 -54	PROJECTILE: 9-3	2
CASE: PROP. TIPE:	CASE: PROPELLANT: INIC TIME: D CHARGE: 653.9	PLUG: 14 CONETY CHARGE: 653.9947 LBS. CHARGE	MAD: 14 CONCITIONED 1947 LBS. VELOCI 1947 LBS. VELOCI 1947 LBS. VELOCI 1947 LBS. VELOCI 1947 LBS. VELOCI 1947 LBS. VELOCI	MAD: VELOCITY: VELOCITY: VELOCITY: VELOCITY: VELOCITY: VELOCITY:	AGENT 1 90 DEGREGS. 2406. F/S. PRESSURE 1 2416. F/S. PRESSURE 2 2415. F/S. PRESSURE 2 2411. F/S. PRESSURE 2 2411. F/S. PRESSURE 2	PRIMER 15-2 41.7 KPSI. 42.2 KPSI. 41.9 KPSI. 41.9 KPSI.	5 • 5 5	PROJECTILE 9-3	27
TITE TO THE TOTAL TOTAL TO THE TOTAL TOTAL TOTAL TO THE TOTAL	THE SACE NEW TENDERS WAS ARRESTURE OF CHARGE SENTINE	4444664	CON C C C C C C C C C C C C C C C C C C	43 CONTITIONED AT 360 L85. VELOCITY: 360 L85. VELOCITY: 360 L85. VELOCITY: 360 L85. VELOCITY: 371 L85. VELOCITY: 773 L85. VELOCITY: 773 L85. VELOCITY:	AGENT: 1800. F/S. PRESSURE: 1812. F/S. PRESSURE: 1809. F/S. PRESSURE: 2391. F/S. PRESSURE: 2458. F/S. PRESSURE:	P P P P P P P P P P P P P P P P P P P	3 t - 2	PROJECTILE: 9-1	2

OCT 27, 1955 239 PREVIOUS ROUNDS OR.

TIPE:	PRCPELLANT: INIC 14 CONCITIONED AT CONCITIONED AT CONCITIONED AT CONCITIONED AT CONCITIONED CHARGE: 653.9947 LBS. VE.OCITY:	AGENT 1 90 DEGREES. 2410, F/S. PRESSURE1 2410, F/S. PRESSURE1 2409, F/S. PRESSURE1	PRIMERS S 61.4 KPSI. 62.7 KPSI. 61.7 KPSI.	15-2	PRO JECT ILE : 9-1	2
fee 260	14, 1956 FREVIOUS ROUNDS OR, & ESR.					
PLUG AMB 1E	PLUG GAGE READINGS! AND Ambient temperature was 46					
THITHIAN SERVICE CONTROL OF SERV	PROPELLANT: INIC 44 CONCITIONED AT 9 CHARGE: 475.1360 LBS. VELOCITY: 1 CHARGE: 654.6773 LBS. VELOCITY: 2 CHARGE: 654.6773 LBS. VELOCITY: 3 CHARGE: 675.1573 LBS. VELOCITY: 3 CHA	AGENT: 90 DEGKEES. 1799. F/S. PRESSURE: 1611. F/S. PRESSURE: 1811. F/S. PRESSURE: 2396. F/S. PRESSURE:	PR P	*5-2	PROJECTILE: 9-1	24
CASE: TINE: TINE:	PROPELLANT: IMIC 14 CONCITIONED AT 0 CHARGE: 653.9947 LBS. VELOCITY: 0 CHARGE: 653.9947 LBS. VELOCITY:	AGENT: 90 DEGREES. 2411, F/S, PRESSURE: 2403, F/S, PRESSURE:	PRIMER: 1 42.5 KPSI.	15-2	PROJECTILE: 9-1	9.22
CASE TIME TIME TIME TIME TIME 203	PRCPELLANTI IMIC 14 CONCITTOVED AT D CHARGEE 653,9947 LBS. VELOCITYE O CHARGEE 653,9947 LBS. VELOCITYE O CHARGEE 653,9947 LBS. VELOCITYE PRE VIOUS ROUNDS OR. D ESR.	AGENT! 90 DEGREES. 2403. F/S. PRESSURE! 2402. F/S. PRESSURE! 2406. F/S. PPESSURE!	PRIMERS 142.2 KPSI.	15-2	PROJECTILE! 18.	4. 4.
PLUG	LUG GAGE READINGS! AND PRIENT TEMPERATURE WAS 59					
	PROPELLANT I IMIC	AGENT! 90 DEGREES. 1807. F/S. PRESSURE! 18122. F/S. PRESSURE! 1820. F/S. PRESSURE! 2303. F/S. PRESSURE! 2304. F/S. PRESSURE! 2354. F/S. PRESSURE! 2557. F/S. PRESSURE!	PRIMER 20.7 K PSI. 20.7 K PSI. 20.7 K PSI. 20.7 K PSI. 41.4 K PSI. 41.7 K PSI. 41.7 K PSI. 45.2 K PSI. 45.2 K PSI.	15-2	PROJECTILE: 9-1	692
CASE 1 11961 11961 11961	7.00 E	AGENT 1 90 DEGRES, 7404, F/S, PRESSURE1 2406, F/S, PRESSURE1 2403, F/S, PRESSURE1	PRINER: 41.9 KPSI. 41.4 KPSI. 42.7 KPSI.	15-2	PROJECTILE 9-1	692

PLUG GAGE READINGS! ANGIENT TEMPERATURE MAS 7	AND 4.8				
PRCPELLANT 1 IHIC 46 CRARGER 475-136 0 CHARGER 475-136 0 CHARGER 475-136 0 CHARGER 475-136 0 CHARGER 654-677 0 CHARGER 654-677 0 CHARGER 654-677 0 CHARGER 654-677 0 CHARGER 654-677	PLUG: 46 CONCITIONED AT CHANT: IHIC 46 CONCITIONED AT CHARGE: 475.136 LBS. 46.0CITY: 0 CHARGE: 454.677 LBS. 46.0CITY: 0 CHARGE: 654.677 LBS. 4C.0CITY: 0 CHARGE: 0 C	46FNT 1 90 DEGREES. 1799. F/S. PPESSURE1 1810. F/S. PPESSURE1 1800. F/S. PPESSURE1 2390. F/S. PRESSURE2 2395. F/S. PRESSURE2	PRIMFR: 15-2 19.9 KPSI: 20.2 KPSI: 20.2 KPSI: 40.5 KPSI: 41.1 KPSI: 41.9 KPSI: 44.6 KPSI: 44.6 KPSI:	PRCJECT LLE 1 9-1	& C
PECPELL ANT! INIC 14 PECPELL ANT! INIC 14 PEE 0 CHARGE! 653.9947	ANT! INIC 14 CONCITIONED AT CHARGE! 653.9947 LBS. VELOCITY!	AGENT: 90 DEGREES. 2402. F/S. PRESSURE: 295. F/S. PRESSURE: 2405. F/S. PRESSURE: 2404. F/S. PRESSURE:	PRIMER: 15-2 41.4 KPSI. 40.3 KPSI. 41.1 KPSI. 41.4 KPSI. 41.9 KPSI.	PROJECTILE: 9-1	8 6 8 6 8 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8
CASE PROPELLANT I INCC 14 CO CHARGE 653,9947 TIMES 0 C	MADS PLG: 14 CONDITIONED AT CHARGES 653,994,7 LBS, VELOCITY CHA	AGENT! 90 DEGREES. 2600. F/S. PRESSURE! 2591. F/S. PRESSURE! 2587. F/S. PRESSURE! 2562. F/S. PRESSURE! 2566. F/S. PRESSURE!	PRIMER: 15-3 32.3 KPSI. 32.5 KPSI. 32.5 KPSI. 31.7 KPSI. 31.7 KPSI. 32.3 KPSI. 32.5 KPSI.	PROJECTILE 1 EXA-	4 0 0
ANDIENT TEMPERATURE MAS CASE PLUG: PROPELLANT: INC. 1: TIPE: 0 CHAGGE: 666.28: TIPE: 0 CHAGGE: 666.28: TIPE: 0 CHAGGE: 666.28: TIPE: 0 CHAGGE: 666.28: TIPE: 0 CHAGGE: 665.28: TIPE: 0 CHAGGE: 665.28: TIPE: 0 CHAGGE: 665.28: TIPE: 0 CHAGGE: 665.28:	MPERATURE MAS 68 PLUGI LLANTI INIC 14 CONCITIONED AT CHARGE: 666.2627 LBS. VE.DCITY: CHARGE: 666.2627 LBS. VE.DCITY: CHARGE: 666.2627 LBS. VE.DCITY: CHARGE: 666.2627 LBS. VE.DCITY: CHARGE: 666.2827 LBS. VE.DCITY: CHARGE: 665.2827 LBS. VELDCITY: CHARGE: 665.2827 LBS. VELDCITY:	AGENT: 90 UEGREES. 2665, F/S, PRESSURE: 2644, F/S, PRESSURE: 2644, F/S, PRESSURE: 2654, F/S, PRESSURE: 2654, F/S, PRESSURE: 2654, F/S, PRESSURE: 2654, F/S, PRESSURE:	92.00 PR HAR S S S S S S S S S S S S S S S S S S S	PRCJECTILE# 13-6	

NAT 16, 1959 32, PME VIOUS ROUNDS OR, G ESR.				
PLIG GAGE READINGS: AND ANGIENT TEMPERATURE WAS 53			Sec 2 1-6 13TLE 3-1 2756	•
PLUG: 14 CONCITIONED AT THE CHARGE 653.4947 LBS. VELOCITY TIME: 0 CHARGE: 653.4947 LBS. VELOCITY:	ACENTI QQ DEGREES. Z416. F/S. PRESSUREI Z426. F/S. PRESSUREI Z423. F/S. PRESSUREI Z419. F/S. PRESSUREI	42.5 KPSI. 42.5 KPSI. 42.7 KPSI. 42.2 KPSI.		
MAY 17, 1960 328 PREVIOUS ROUNDS OR, G ESR.				
PLUG GAGE READINGS! AND AMBIENT TEMPERATURE MAS 75			8842 1-6 1311132 VBB	:
CASES PROPELLANTS INIC 14 CONCITIONED AT TIMES & CHARGES 475,1360 LBS, VELDGITY IN TIMES & CHARGES 475,1360 LBS, VELDGITY IN TIMES	AGENT: 94 DEGREES. 1806, F/S. PRESSURE: 1821, F/S. PRESSURE	PRIMER' 19-3 20.2 KPSI.	·	
HAY 21, 1960 336 PREVIOUS ROUNDS OR, B ESR.				
PLUG GAGE READINGS! AND AMBIENT TEMPERATURE MAS 82			2002 t-0 -312555 040	
CASE PLUG! 14 CONCITIONED AT TIME: 9 CHARGE: 475-1360 LBS, VELOCITY: TIME:	ACENT: 90 DEGRES. 0 F/S. PRESSURE: 0 F/S. PRESSURE: 0 F/S. PRESSURE:	P2 I MER: 15-3 19.9 KPSI. 20.4 KPSI. 20.2 KPSI. 29.2 KPSI.		
AUG 17, 1967 336 PREVIOUS ROUMDS OR. 8 ESR.				
PLUG GAGE READINGS! AND AMBIENT TEMPERATURE WAS 80			PBD 1501718 9-3 26	5692
CASE! PLOG! BLUG! MAJ! PROPELLANT: SPO 6102 CONCITIONED AT TIME: 0 CHARGE: 650.7733 LOS. VELOCITY:	AGENT 1 90 DEGREES. 2383. F/S. PRESSURES	BALMERA MALA		
AUG 22, 1967 335 PREV JOUS FOUNDS OR, U ESR.				
PLUG GAGE READINGS! AND APPLIED TO THE MAS 69		;	080 8011181 13-6 14	1961
CASE: MAD: PREPELLANT: SPD 610? CONCITIONSO AT TIME: 0 CHARGE: 656,773 LGS, VE.OCITY:	AGENT! 90 DEGREES. 11 2555, F/S, PRESSURE!	PRIMER 15-3 1 30.9 KPSI.		

PLIG GAGE READINGS: AND AMBIENT TEMPERATURE MAS 67		!		6
PLUG: WAD: PROPELLANT: SPC 8102 CONCITIONED AT 9 0 CMARGE: 658,7733 LBS. WE.DCITY: 2	AGENT (90 DEGREES. 2527. F/S. PPESSURE:	PRIMER: 15-3 30.6 KPSI.	בארקבני זוני זייני איני איני איני איני איני איני א	
WOV 1, 1967 337 PREVIOUS ROUNDS OK, B ESR.				
PLUG GACE READINGS: AND ANGIENT TEMPERATURE MAS 57				
PROPELLANT IMIC 16 CONCITIONES AT 1121 CHARGES 653.9947 LBS. VELOCITYS 1140 CHARGES 653.9947 LBS. VELOCITYS 1153 CHARGES 653.9947 LBS. VELOCITYS	ACENT: 90 DEGREES. 224. F/S. PRESSURE: 2469. F/S. PRESSURE! 2398. F/S. PRESSURE!	PRIMER: 15-2 41.4 KPSI. 40.5 KPSI. 40.3 KPSI.	PROJECTILE 1 9-1	
JV 9, 1967 340 PREVIOUS ROUNDS OR, 0 ESR.				
PLUG GAGE READINGS! AND AMBIENT TEMPERATURE WAS 58				
PROPELLANT: SPC 8102 CONCITIONED AT 1123 CHAPGE: 656.7733 LBS. VELOCITV: 1146 CHAPGE: 658.7733 LBS. VELOCITV: 1202 CHAPGE: 658.7733 LBS. VELOCITV:	AGENT: 90 DEGREES. 2350, F/S. PPESSURE! 2370, F/S. PPESSURE! 2351, F/S. PPESSURE!	0 RIMER1 15-2 36.4 KPSI. 38.7 KPSI. 37.1 KPSI.	PROJECTILE 9-3	

D ESR. FEB 5, 1968 244 PREVIOUS ROUNCS OF,

PRCJECTILE: 9-? 2708

PRIMERI 15-2

CASE: ACPELLANT: SPD 6102 CONCITIONED AT 90 DEGREES. TIME: 0 CHARGE: 658.7733 LBS. VELOCITY: 2375. F/S. PPESSUPE: 36.2 KPSI.

6 ESR.

NOV 20, 1967 343 FREVIOUS ROUNDS OF.

PLUE GAGE READINGS: AND AMBIENT TEMPERATURE WAS 40

MELUE GAGE READINGS! AND AMBIENT TEMPERATURE WAS 42

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	m •	£-6	m -	P)	*
PROJECTILE 1	PROJECTILE !	Projectiles	PROJECT SLE &	PRCJECTILE®	PROJECTILE 13-6
25-2	15-2	2-58	5-5	15-2	2
PR 2 ME 8 1	PRIMER: 15.8 KPSI. 22.8 KPSI. 36.3 KPSI. 55.4 KPSI.	ALLO KPSI. 16-1 KPSI. 26-2 KPSI. 36-8 KPSI.	PAINERS 22.6 KPSI. 34.9 KPSI. 58.9 KPSI.	PR1668:	SAIN SAIN SAIN SAIN SAIN SAIN SAIN SAIN
AGENTE 90 DEGREES. 2415. F/S. PAESS/RE! 2436. F/S. PRESSURE! 2433. F/S. PRESSURE! 2411. F/S. PRESSURE! 2423. F/S. PRESSURE!	AGENT: 90 OEGRES. 1586. F/S. PRESSURE: 1912. F/S. PRESSURE: 2270. F/S. PRESSURE: 2530. F/S. PRESSURE:	AGENT! 96 OEGRES. 1351, F/S. PRESSURE! 1666, F/S. PRESSURE! 2311, F/S. PRESSURE!	AGENT: 90 DEGREES. 1921, F/S, PRESSURE: 2616, F/S, PRESSURE: 7616, F/S, PRESSURE:	ACENT * 90 DEGREES. 1. F/S. PRESSURE!	AGENT (90 DEGRES- 2618- F/S- PRESSURET 2503- F/S- PRESSURET 2553- F/S- PRESSURET 2571- F/S- PRESSURET 2557- F/S- PRESSURET 2557- F/S- PRESSURET
PLUGE MN31 PLUGE 45. CHARGE 653.9547 LES. VELOCITYS 100 CHARGE 653.9947 LES. VELOCITYS 1027 CHARGE 653.9947 LES. VELOCITYS 1039 CHARGE 653.9947 LES. VELOCITY 1103 CHARGE 653.9947 LES. VELOCITY 1103 CHARGE 653.9947 LES. VELOCITY 1103 CHARGE 653.9947 LES. VELOCITY	PROPELLANT: AJ 3 20 COMDITIONED AT 1118 CHARGE: 499.7120 LBS. VELOCITY: 1128 CHARGE: 600.0640 LBS. VELOCITY: 1738 CHARGE: 500.0640 LBS. VELOCITY: 1746 CHARGE: 770.0640 LBS. VELOCITY: 1416 CHARGE: 770.0640 LBS. VELOCITY:	20 40 41 23 40 41 24 64 24 64 24 24 64 24	5	4 5 2 2	### 1966 #### 1966 #### 1966 #### 1966 #### 1966 #### 1966 #### 1966 #### 1966 #### 1966 ##### 1966 ##### 1966 ##################################
4414 66 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	7176: 1176:		111 P	A P FEB SELL SELL SELL SELL SELL SELL SELL SE	7.05 AND 15.7 AND 15.

MALG GAGE READINGS1 AND ANGENETINGS1 AND ANGENETINGS NA		
ALOZ CONCITIONED AT 98 DEGREES7733 LBS. VE.JGITY: 0. F/S. PRESSURE: 38.6 KPSI7733 LBS. VELJGITY: 0. F/S. PRESSURE: 31.6 KPSI.	15-2 PROJECTILET SPO 3734	
### ### ### #### #### ################	19-2 PROJECTILE: SPE 3734	•
20. 1968 PREVIOUS ROUNCS OR.		
PAUG GAGE READINGS! AMBIENT TEMPERATURE WAS 34 GASE! CASE: PROPELLANT! IHIC 14 CONCITIONED BY 90 DEGREES. TIPE: 0 CHARGE: 653,9947 LBS, VELOCITY: 24.1, F/S, PRESSURE: 40.9 KPSI. TIPE: 0 CHARGE: 653,9947 LBS, VELOCITY: 24.5, F/S, PRESSURE: 40.9 KPSI. TIPE: 0 CHARGE: 653,9947 LBS, VELOCITY: 24.7, F/S, PRESSURE: 40.9 KPSI.	15-2 PRGJECTILE: AJ 3 21	
AGENTE 90 DEGREES. 2441. F/S. PRESSURE: 44.6 KPSI. 2426. F/S. PRESSURE: 44.1 KPSI. 2476. F/S. PRESSURE: 48.1 KPSI.	15-2 PROJECTILET AJ 3 21	_
CS 0R.		
CASE: PROPELLANT: SPC 8102 CONITIONED AT 90 DEGREES. TIME: 1019 CHARGE: 658.7733 LBS. WE.DCITY: 2410. F/S. PRESSURE: 39.8 KPSI. TIME: 1049 CHARGE: 658.7733 LBS. WE.DCITY: 2410. F/S. PRESSURE: 39.2 KPSI. TIME: 115 CHARGE: 658.7733 LBS. WE.DCITY: 2410. F/S. PRESSURE: 39.2 KPSI. TIME: 115 CHARGE: 658.7733 LBS. WE.DCITY: 2369. F/S. PRESSURE: 37.9 KPSI. TIME: 115 CHARGE: 658.7733 LBS. WE.DCITY: 2375. F/S. PRESSURE: 37.9 KPSI. TIME: 115 CHARGE: 658.7733 LBS. WE.DCITY: 2375. F/S. PRESSURE: 37.9 KPSI. TIME: 115 CHARGE: 658.7733 LBS. WE.DCITY: 2375. F/S. PRESSURE: 37.2 KPSI. TIME: 115 CHARGE: 658.7733 LBS. WE.DCITY: 2375. F/S. PRESSURE: 37.2 KPSI.	15-2 PROJECTILE: 9-3 2789	0

FEB 15, 1964 369 PREVIOUS GOUNDS OR, 0 ESR.

CASE: TIPE: TIPE:	PRCPELLANT: SPD 10335 CONCXTONED AT 1807 CHARGE: 662-8693 LBS. VELOCITY: 1817 CHARGE: 662-8693 LBS. VELOCITY: 1048 CHARGE: 662-8693 LBS. VELOCITY:	AGENT: 90 DEGRES. 2382. F/S. PRESSURE: 2383. F/S. PRESSURE: 2388. F/S. PRESSURE:	PRIMER: 15-2 U7.9 KPSI. U8.5 KPSI.	PROJECTILE: 9-3	2694
7EB 356	FEB 26, 1966 356 FREVIOUS ROUNDS OR, O ESR. PLUG GAGE READINGS! AND PROTENT TEMPERATURE WAS 36				
	PROPELLANT: SPD 6102 CONCITIONED AT 937 CHARGE: 658,773 LBS. VELOCITY: 1004 CHARGE: 658,773 LBS. VELOCITY: 1814 CHARGE: 658,773 LBS. VELOCITY: 1022 CHARGE: 658,773 LBS. VELOCITY: 1033 CHARGE: 658,773 LBS. VELOCITY: 1033 CHARGE: 658,773 LBS. VELOCITY:	AGENT 1 90 DEGREES. 2426. F/S. PRESSURE1 2396. F/S. PRESSURE1 2400. F/S. PRESSURE1 2410. F/S. PRESSURE1	PRIMER 15-2 39.2 KPSI. 37.9 KPSI. 38.4 KPSI. 49.7 KPSI.	PROJECTILE: 9-3	
MARCH 401 PLUG G AMBIE	MARCH 8, 1968 401 PREVIOUS ROUNDS OR, D ESR, PLUG GAGE READINGS! AND ANDIENI TEMPERATURE WAS 52				
	PROPELLANT: SPO 10335 CONCITIONED AT 1056 CHARGE: 662.6693 LBS. VELOCITY: 1126 CHARGE: 662.6693 LBS. VELOCITY: 1126 CHARGE: 662.6693 LBS. VELOCITY: 1137 CHARGE: 662.6693 LBS. VELOCITY: 1147 CHARGE: 662.6693 LBS. VELOCITY:	AGENT: 90 DEGRES. 2361. FYS. PRESSURE: 2364. FYS. PRESSUPE: 2365. FYS. PRESSURE: 2374. FYS. PRESSURE: 2368. FYS. PRESSURE:	MANUAL MA	PROJECTILES 9-1	84
14 466 10 00 10 00 00 00 00 00 00 00 00 00 00 0	486 PREVIOUS ROUNDS OR, 6 ESP. PLUG GAGE READINGS! AND AMBZENI TEMPERATURE WAS AN				
CASE TIME: TIME: TIME:	PLUGI PLUGI O CHARGEI 662.86 O CHARGEI 662.86 D CHARGEI 662.86	ACENT PODGREES. 10. F/S. PRESSURE:	PRIMER: 15-2 10.4 KPSI. 29.6 KPSI. 29.6 KPSI.	PROJECTILE SPD	27.5
TITE .	PROPELLANT! AJ 3 20 CONCITIONE) AT 0 CHARGE! 320.1707 LBS. VE.DGITY!	AGENT 1 90 DEGREES. 0. F/S. PRESSURE1 0. F/S. PRESSURE1 0. F/S. PRESSURE1 0. F/S. PRESSURE1	13.7 KPSI. 13.7 KPSI. 13.7 KPSI. 13.4 KPSI.	PROJECTILE: SPO	37.24

FEB 26, 1968
39 PREVIOUS ROUNCS OR, 38889 ESR.
PLUG GAGE READINGS: AND
APBIENT TEMPERATURE WAS 26

PLUG GAGE READINGS! AND AMBIENT TEMPERATURE MAS 78		
CASE: PROPELLANT: SPO 6102 CONDITIONED 4T 90 DEGREES. TIPE: 0 CHARGE: 650.7733 LBS. VELOCITY: 2376. F/S. PRESSURE: 40.1 KPSI. TIPE: 0 CHARGE: 650.7733 LBS. VELOCITY: 2364. F/S. PRESSURE: 39.0 KPSI.	PROJECTILE: 9-1	1 2645
WAY 19, 1968 430 PREVIOUS ROUNDS OR, 8 ESR.		
PLUG GAGE READINGS! AND AMBIENT TEMPERATURE WAS 71		
CASE: PREPELLANT: SPC 3734 CONCITIONED AT 90 DEGREES. TIPE: 0 CHARGE: 320,1707 LBS. VE, OCITY: 0. F/S. PRESSURE: 17.2 KPSI. TIME: 0 CHARGE: 320,1707 LBS. VELDCITY: 0. F/S. PRESSURE: 17.2 KPSI.	PROJECTILE 9-1	-1 2780
MAY 20, 1968 432 PREVIOUS ROUNCS GR. 0 ESR.		
PLUG GAGE READINGS! AND Ambignt temperature was 65		
FREPELLANT: SPEN 9991 CONTITIONED AT 30 DEGREES. TIPE: 105 CHARGE: 305.8347 LBS. VELOCITY: 0.675. PPESSURE: 26.3 KPSI. TIPE: 1116 CHARGE: 305.8347 LBS. VELOCITY: 2002. F/S. PRESSURE: 25.1 KPSI. TIPE: 1115 CHARGE: 305.8347 LBS. VELOCITY: 2001. F/S. PRESSURE: 25.0 KPSI. TIPE: 112 CHARGE: 305.8347 LBS. VELOCITY: 1996. F/S. PRESSURE: 25.0 KPSI. TIPE: 113.1 CHARGE: 305.8347 LBS. VELOCITY: 1996. F/S. PRESSURE: 25.0 KPSI. TIPE: 13.0 CHARGE: 305.8347 LBS. VELOCITY: 1996. F/S. PRESSURE: 25.0 KPSI. TIPE: 13.0 CHARGE: 305.8347 LBS. VELOCITY: 1996. F/S. PRESSURE: 26.3 KPSI. TIPE: 13.0 CHARGE: 305.8347 LBS. VELOCITY: 1996. F/S. PRESSURE: 26.3 KPSI. TIPE: 13.0 CHARGE: 305.8347 LBS. VELOCITY: 1994. F/S. PRESSURE: 26.3 KPSI. TIPE: 13.0 CHARGE: 305.8347 LBS. VELOCITY: 2002. F/S. PRESSURE: 26.3 KPSI. TIPE: 13.5 CHARGE: 305.8347 LBS. VELOCITY: 2002. F/S. PRESSURE: 26.3 KPSI. TIPE: 13.5 CHARGE: 305.8347 LBS. VELOCITY: 2001. F/S. PRESSURE: 26.3 KPSI. TIPE: 14.15 CHARGE: 305.8347 LBS. VELOCITY: 2001. F/S. PRESSURE: 26.3 KPSI. TIPE: 14.15 CHARGE: 305.8347 LBS. VELOCITY: 2001. F/S. PRESSURE: 26.3 KPSI. TIPE: 14.15 CHARGE: 305.8347 LBS. VELOCITY: 2001. F/S. PRESSURE: 26.3 KPSI.	PROJECTILE: 13-2	3-2 1900
MAY 21, 1968 444 PREVIOUS ROUNDS OR, D ESR.		
PMLG GAGE READINGS: AND AMBIENT TEMPERATURE WAS 74		
PREPELLANT: SPC 6102 CONCITIONED AT 30 DEGREES. TIME: 1550 CHARGE: 658.7737 L8S. WE OCITY: 2378. F/S. PRESSURE: 28.0 KPSI. TIME: 144 CHARGE: 658.7737 L8S. WE OCITY: 2808. F/S. PRESSURE: 28.6 KPSI. TIME: 1454 CHARGE: 658.7737 L8S. WE OCITY: 2374. F/S. PRESSURE: 26.6 KPSI. TIME: 1454 CHARGE: 658.7737 L8S. WE OCITY: 2395. F/S. PRESSURE: 26.9 KPSI. TIME: 1454 CHARGE: 658.7737 L8S. WE OCITY: 2392. F/S. PRESSURE: 27.1 KPSI. TIME: 1456 CHARGE: 658.7737 L8S. WE OCITY: 2392. F/S. PRESSURE: 27.7 KPSI. TIME: 1456 CHARGE: 658.7737 L8S. WE OCITY: 2436. F/S. PRESSURE: 29.6 KPSI.	PROJECTILE: 13-2	3~2 1980

MAY 16, 1968 11, PREVIOUS ROUNDS OR, 8 ESR.

	PROJECTILF 8-1 278(PROJECTILE: 19-6 1958	PROJECTILÊN 19-8 1916
25.8 APSI. 26.6 APSI. 28.0 APSI. 29.2 APSI. 29.2 APSI.	PRINER 15-2 WY-6 KPSI- WY-6 KPSI- WY-6 KPSI- WY-6 KPSI- WY-6 KPSI- WY-6 KPSI- WY-7 KPSI-	021HERS 15-3 31.2 KPSI.	PRIMER 15-3 34.7 XPSI.
2379, F/S, PRESSURE: 2887, F/S, PRESSURE: 2481, F/S, PRESSURE: 2440, F/S, PRESSURE: 2440, F/S, PRESSURE: 2	AGENT 1 30 DEGREES. 2373. F./S. PRESSURE 1 2343. F/S. PRESSURE 1 2343. F/S. PRESSURE 1 2319. F/S. PRESSURE 2 2320. F/S. PRESSURE 2 2230. F/S. PRESSURE 2 2315. F/S. PRESSURE 2 2316. F/S. PRESSURE 2 2	AGENT 1 BU DEGREES. 2516. F/S. PRESSURE1	AGENT! 75 DEGREES. 2483, F/S. PRESSURE!
TIPE: 1514 CHARGE: 656.7733 LBS. VELOCITY: 2 TIME: 1523 CHARGE: 658.7733 LBS. VELOCITY: 2 TIPE: 1531 CHARGE: 658.7733 LBS. VELOCITY: 2 TIPE: 1551 CHARGE: 658.7733 LBS. VELOCITY: 2 TIPE: 1551 CHARGE: 658.7733 LBS. VELOCITY: 3 TIPE: 1551 CHARGE: 658.7733 LBS. VELOCITY: 3 TAMP 22. 1968 ASS PREVIOUS ROUNDS OF. 0 658.	AMBIENT TEMPERATURE MAS 66 GASE	JUNE 26, 1968 468 PREVIOUS ROUNDS OR, 0 FSR. PLUG GAGE READINGS! AND HAD! CASE! PROPELLANT! SP0 8102 CONCITIONED AT TIME! 1735 CHARGE! 650.7733 LBS. VE.OCITY!	SEFT 19, 1966 h69 PREVIOUS ROUNDS OR, D ESR. PLUG GAGE READINGS! AND CASE! PLUG! CASE! PROPELLANT! PLUG! TIME: 1425 CHARGE! 658.0907 LBS. VELDCITY!

APRIL 7, 1969
478 PREVIOUS ROUNDS OR, 0 ESR, PLUG GAGE READINGS!
AMBIENT TEMPERATURE MAS 78

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**************************************	PROPELLANT: IMIC 14 CONCITIONED AT 97 1343 CHARGE: 653.9947 LBS. VELOCITY: 1448 CHARGE: 653.9947 LBS. VELOCITY: 1547 CHARGE: 653.9947 LBS. VELOCITY: 1547 CHARGE: 653.9947 LBS. VELOCITY: 1567 CHARGE: 653.9947 LBS. VELOCITY: 1567 CHARGE: 653.9947 LBS. VELOCITY: 1567 CHARGE: 653.9947 LBS. VELOCITY: 176.1369	READINGS: HPERATURE MAS 75 MAD: PLUG 9991 CONCITIONED AT 16 CHARGE 8 305.8347 LBS. WELOGITY: G CHARGE 8 305.8347 LBS. WEL	DO DOITY SCITY	PLUG: MAD: PLUG: MAD: PROPELLANT: SPD 10243 CONCITIONED AT ME. 1886 CHARGE: 659-6560 LBS. VE.OCITV: NE: 1815 CHARGE: 669-6560 LBS. VE.OCITV: NE: 1815 CHARGE: 669-6560 LBS. VE.OCITV: NE: 1825 CHARGE: 669-6560 LBS. VE.OCITV: NE: 1835 CHARGE: 1855 CHARGE
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KPSI.	KP3I.	KPSI.	KPSI.	KPSI.
11.6	32.3	34.7	36.1	35.5
			PRESSURE	
F/S.	F/S.	F/S.	F/5.	F/S.
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VEL OCITY!	VE. OCITY (VELOCITY!	VE. OCITY 1	VE.OCITY1
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669.6560	669.6560	669.6960	0939.699	669.6960
CHARGE	CHARGE 1	CHARGE 1	CHARGE	CHARGE
7	20 22	1521	1539	1549
TIME	TIPE	TIMES	TIME	1116

OUTPUT FROM PROGRAM POINT

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